

SYLVANIA

SERVICE MANUAL

Sec. 1: Main Section

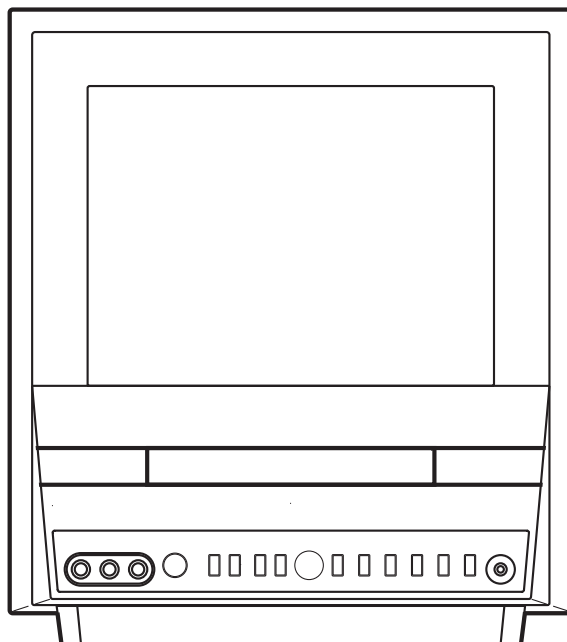
- Specifications
- Adjustment Procedures
- Schematic Diagrams
- CBA's

Sec. 2: Exploded views and Parts List Section

- Exploded views
- Parts List

9" COLOR TV/DVD

6509DD/SSC509D



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

9" COLOR TV/DVD

6509DD/SSC509D

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- Specifications
- Adjustment Procedures
- Schematic Diagrams
- CBA's

TABLE OF CONTENTS

Specifications	1-1-1
Laser Beam Safety Precautions	1-2-1
Important Safety Precautions	1-3-1
Standard Notes for Servicing	1-4-1
Operating Controls and Functions	1-5-1
Cabinet Disassembly Instructions	1-6-1
Electrical Adjustment Instructions	1-7-1
FIRMWARE Renewal Mode	1-8-1
Block Diagrams	1-9-1
Schematic Diagrams / CBA's and Test Points	1-10-1
Waveforms	1-11-1
Wiring Diagrams	1-12-1
System Control Timing Charts	1-13-1
IC Pin Functions	1-14-1
Lead Identifications	1-15-1

SPECIFICATIONS

< TV Section >

✳Mode-----SP mode unless otherwise specified

✳Test input terminal

<Except Tuner>-----Video input (1Vp-p)

Audio input (-10dB)

<Tuner>-----Ant. input (80dBμV) Video: 87.5%

Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	—
2. Linearity	Horizontal	%	—	15
	Vertical	%	—	10
3. High Voltage	—	kV	22	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.4
	Corner	m/m	—	1.9
	Side	m/m	—	1.4
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	10	2
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	55	40
5. Color Temperature	—	K	9200	—

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80dBμV, TV4ch)	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	45	40
3. Audio Output Power at Speaker	—	W	1	0.8

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

<DVD Section>

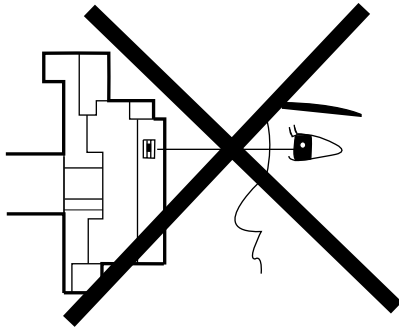
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	± 0.1
2. Coaxial Digital Out	75 ohm load	mVpp	500	± 100
3. Audio (PCM)				
3-1. Output Level	1kHz 0dB	Vrms	2.0	
3-2. S/N		dB	85	
3-3. Freq. Response				
DVD	fs=48kHz 20~22kHz	dB	± 0.5	
CD	fs=44.1kHz 20~20 kHz	dB	± 0.5	
3-4. THD+N				
DVD	1 kHz 0dB	%	0.0025	
CD	1 kHz 0dB	%	0.003	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC120 V 60 Hz
3. Load imp. : 100 K ohm
4. Room ambient : +25 °C

LASER BEAM SAFETY PRECAUTIONS

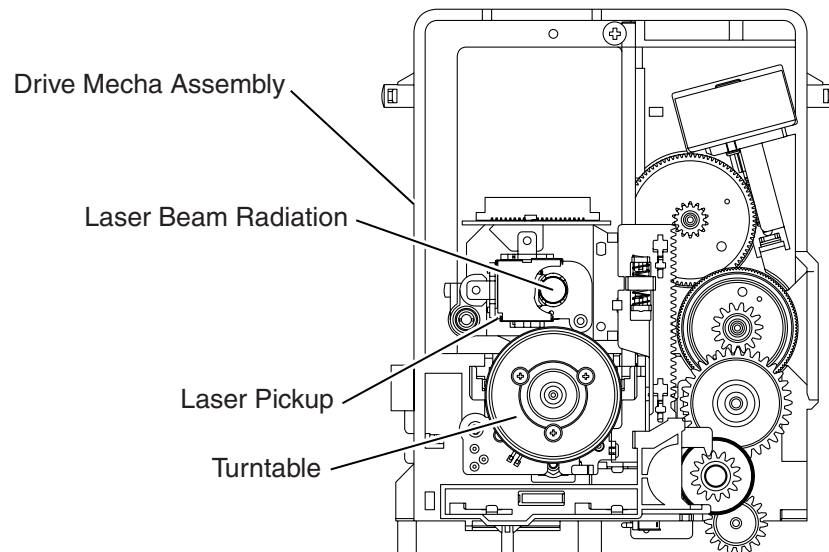
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Inside Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:

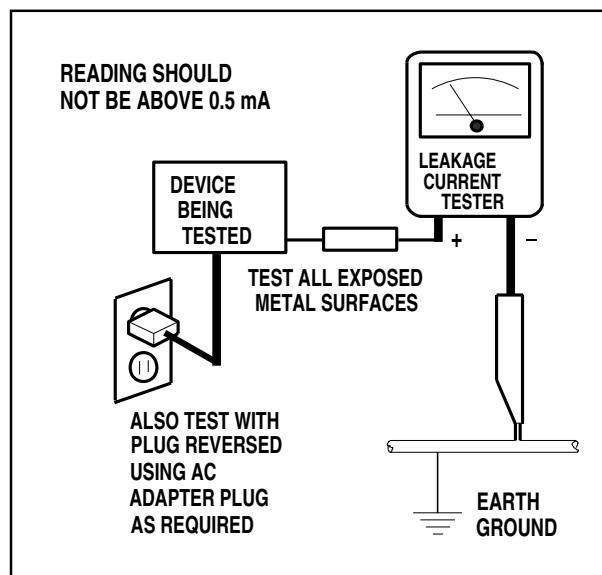
a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leak-

age current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. **X-Radiation and High Voltage Limits** - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servic-

ing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. Hot Chassis Warning -

- a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known

earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

- b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
- c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (▲) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A.** Parts identified by the () symbol are critical for safety.

Replace only with part number specified.

- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

- C.** Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

- D.** Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulators for transistors.

- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

- F.** Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

- G.** Check that replaced wires do not contact sharp edged or pointed parts.

- H.** When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

- I.** Also check areas surrounding repaired locations.

- J.** Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

- K.** Crimp type wire connector

When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.

Replacement procedure

- 1) Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector (discard it).

- 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
- 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
- 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

- L.** When connecting or disconnecting the TV/DVD connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z . See Fig. 2 and following table.

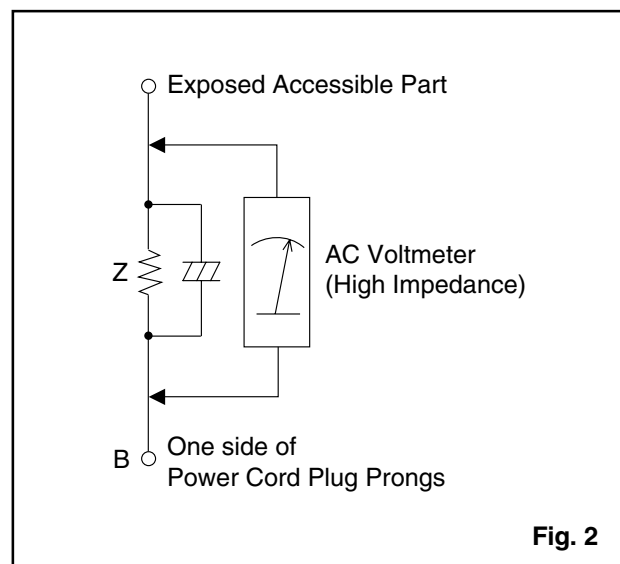
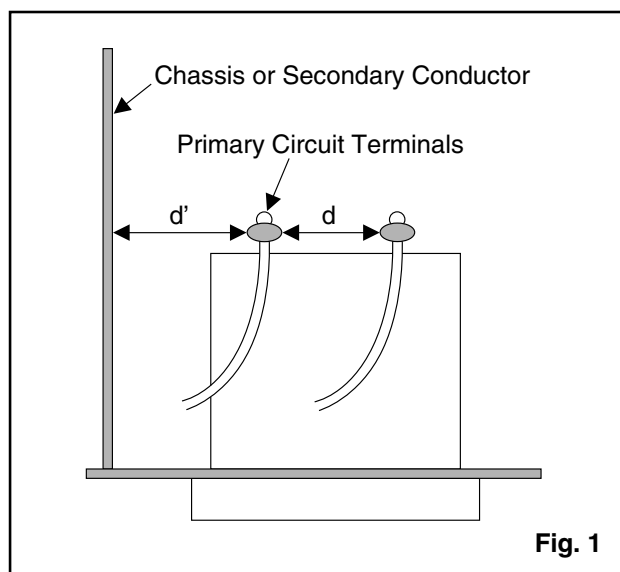


Table 2: Leakage current ratings for selected areas

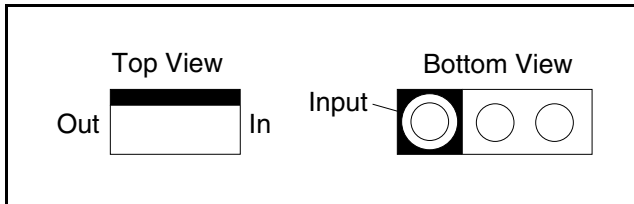
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA or CANADA	0.15 μ F CAP. & 1.5k Ω RES. connected in parallel	$i \leq 0.5$ mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

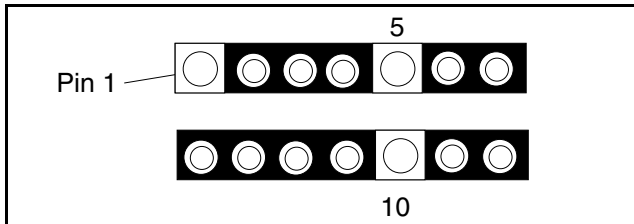
STANDARD NOTES FOR SERVICING

Circuit Board Indications

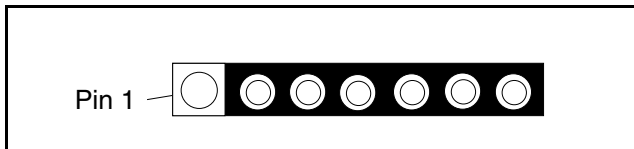
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin is indicated as shown:

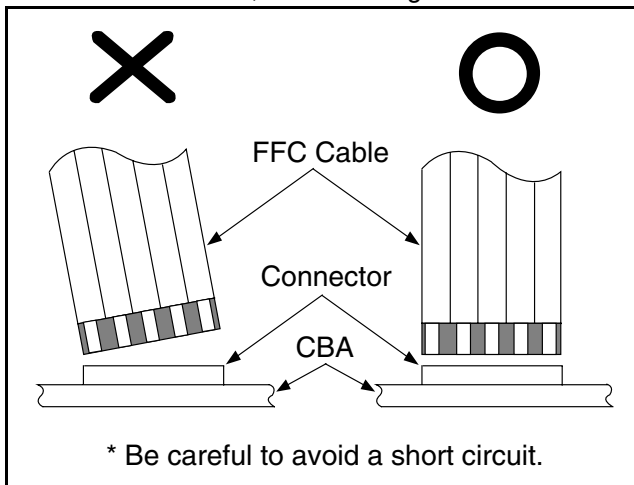


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.



[CBA= Circuit Board Assembly]

How to Remove / Install Flat Pack IC

Caution:

3. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
4. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

- a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)
- b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

- a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)
- b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

- a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)
- b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
- c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

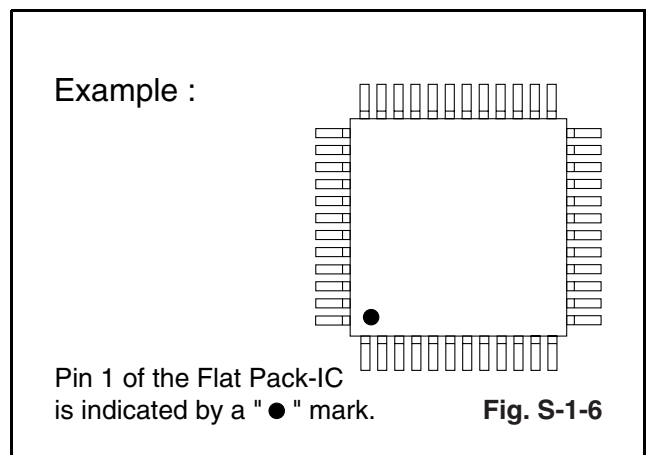
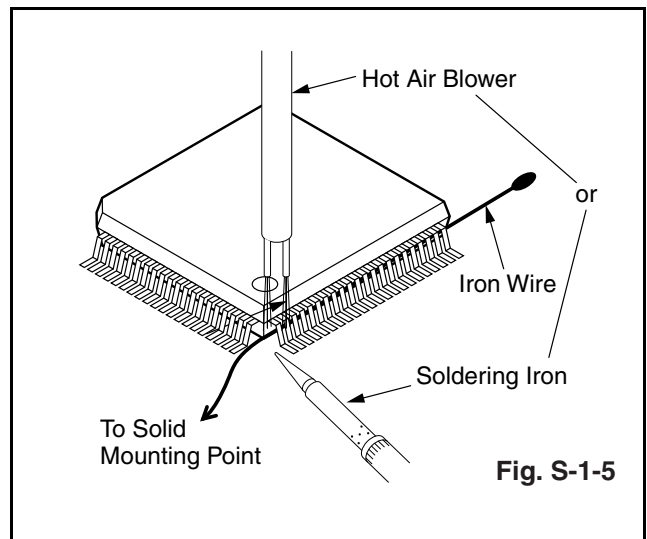
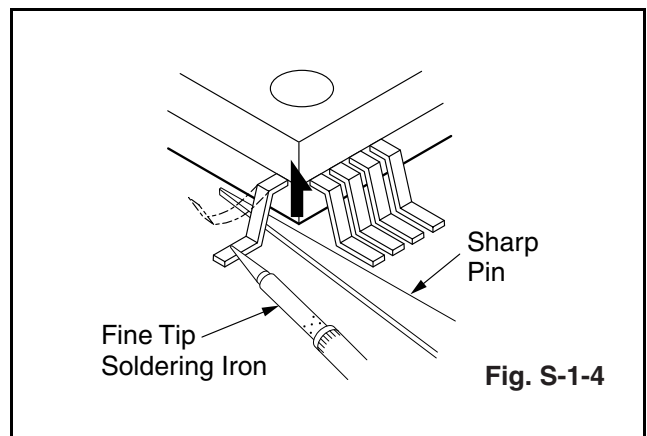
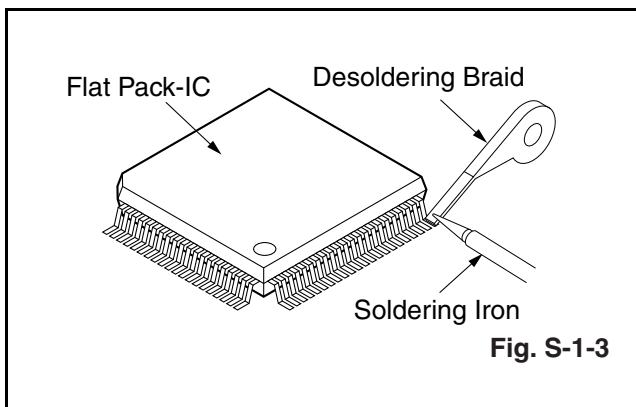
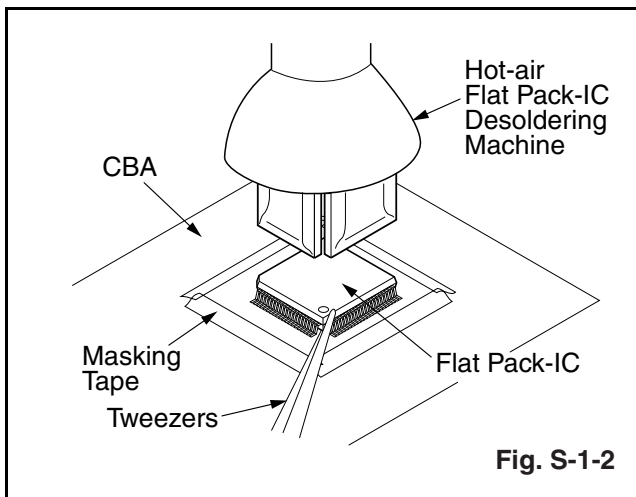
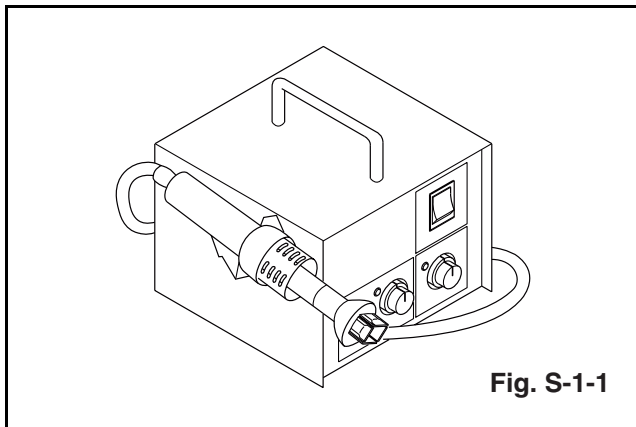
Note:

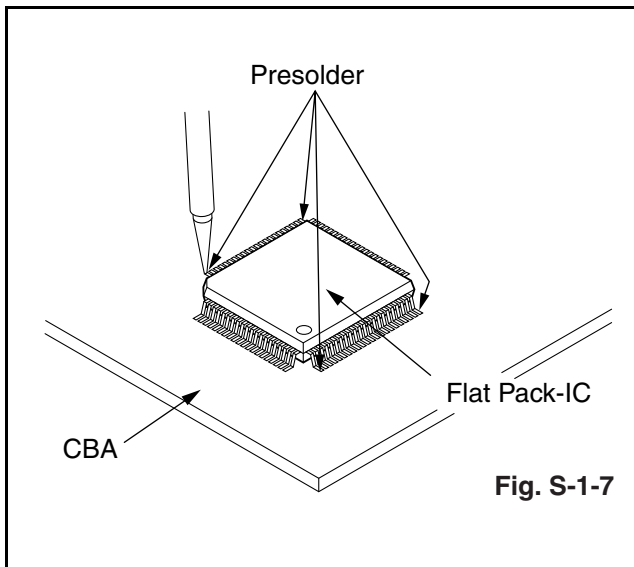
When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

- a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

- b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack-IC (See Fig. S-1-7).
- c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.





Instructions for Handling Semiconductors

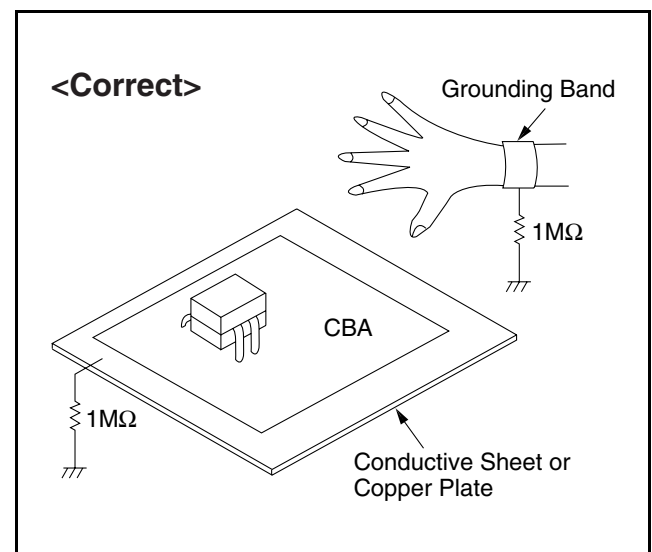
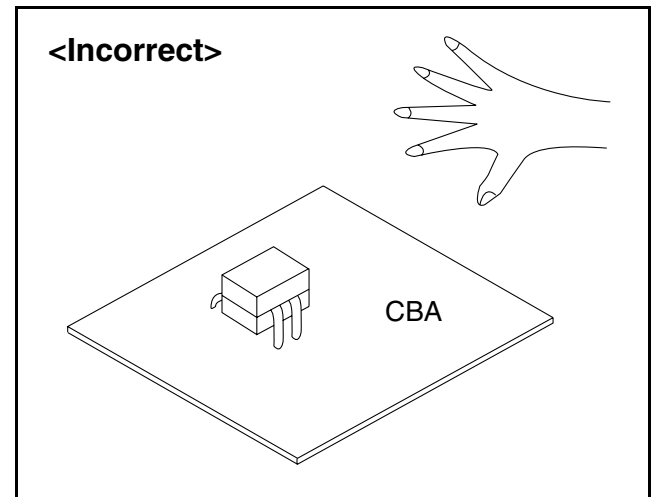
Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

Ground for Human Body

Be sure to wear a grounding band ($1M\Omega$) that is properly grounded to remove any static electricity that may be charged on the body.

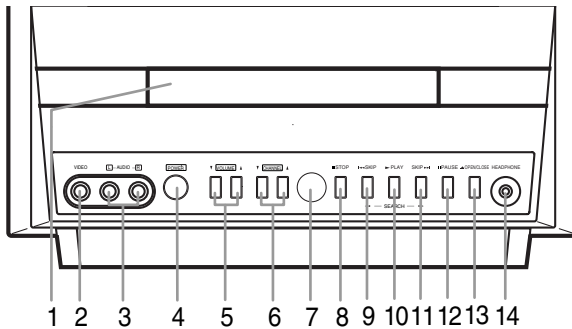
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding ($1M\Omega$) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

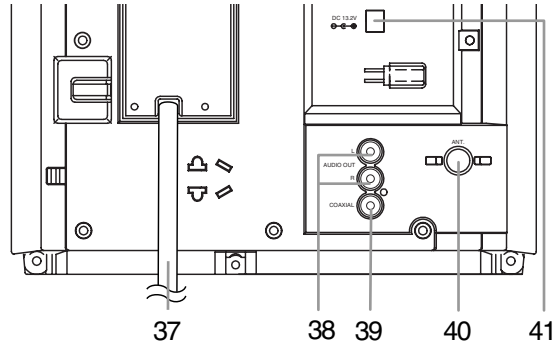


OPERATING CONTROLS AND FUNCTIONS

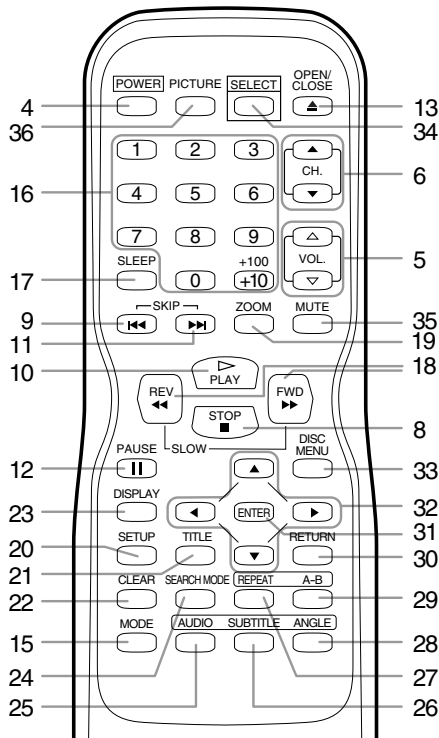
TV/DVD FRONT PANEL



TV/DVD REAR VIEW



REMOTE CONTROL



1. Disc loading tray

2. VIDEO input Jack

Connect to the video output jack of a video camera or VCR.

3. AUDIO L/R input Jacks

Connect to the audio output jacks of a video camera or VCR.

4. POWER Button

Press to turn the power on and off.

5. VOLUME ▲/▼ (VOL. ▲/▼) Buttons

Press to control the volume level for the DVD and TV.

6. CHANNEL ▲/▼ (CH.▲/▼) Buttons

Press to select memorized channel.

Press to change to TV mode when DVD mode.

7. Remote Sensor Window

8. STOP Button

Stops operation of the disc.

9. SKIP ◀◀ Button

Plays back from the beginning of the current chapter or track.

SEARCH (REV) ◀◀ Button (Front Panel)

During playback or in the pause mode, press and hold button down for a few seconds to change reverse playback speed.

10. PLAY Button

Starts playback of the disc contents.

Press to change to DVD mode when TV mode.

11. SKIP ▶▶ Button

Plays back from the beginning of the next chapter or track.

SEARCH (FWD) ▶▶ Button (Front Panel)

During playback or in the pause mode, press and hold button down for a few seconds to change forward playback speed.

12. PAUSE Button

Pauses the current disc operation.

13. OPEN/CLOSE Button

Press to insert discs into or remove them from the tray.

14. HEADPHONE Jack

To connect headphone (not supplied) for personal listening.

15. MODE Button

Activates program playback or random playback mode when playing CDs or MP3.

16. Number Button

TV Mode:

Press two digits to directly access the desired channel.
Remember to press a "0" before a single digit channel.

+100 Button—

Press to select cable channels which are equal or greater than number 100.

DVD Mode:

Press to enter the desired number.

+10 Button—

Press to enter the desired numbers which are equal or greater than number 10.

17. SLEEP Button

Press SLEEP to display the sleep timer and start the function. The shut off time can be determined by the number of times you press this button. (0, 30, 60, 90, or 120 minutes)

18. REV ◀◀ Button

Press to view the DVD picture in fast reverse motion. Press PAUSE, then press this button to begin slow motion playback. Press this button repeatedly to change the reverse speed of slow motion.

FWD ▶▶ Button

Press to fast forward the Disc. Press PAUSE, then press this button to begin slow motion playback. Press this button repeatedly to change the forward speed of slow motion.

19. ZOOM Button

Expands the picture to fill the entire screen.

20. SETUP Button

Press to enter or exit the TV menu or DVD setup mode.

21. TITLE Button

Displays the title menu.

22. CLEAR Button

Resets a setting.

23. DISPLAY Button

TV Mode:

Press to display the channel number on the screen. If you press it again, the channel number will disappear.

DVD Mode:

Displays the current status on the TV screen for checking purposes.

24. SEARCH MODE Button

Press to locate a desired point.

25. AUDIO Button

Press to select a desired audio language or sound mode.

26. SUBTITLE Button

Press to select a desired subtitle language.

27. REPEAT Button

Repeats playback of the current disc, title, chapter or track.

28. ANGLE Button

Press to change the camera angle to see the sequence being played back from a different angle.

29. REPEAT A-B

Repeats playback of a selected section.

30. RETURN Button

Returns to the previous operation.

31. ENTER Button

Press to accept a setting.

32. Arrow Buttons

TV Mode:

Press to select a setting mode from the menu on the TV screen.

Press to select or adjust from a particular menu.

DVD Mode:

Use when making settings while watching the display on a TV screen.

33. DISC MENU Button

Displays the menus in the DVD.

34. SELECT Button

Press to change to TV mode, external input mode or DVD mode.

NOTE: When you select the DVD mode by this button, press PLAY or OPEN/CLOSE first. Otherwise, the DVD features are not operated.

35. MUTE Button

Press MUTE to turn off the sound portion of the TV program. (Volume level display turns LIGHT RED from LIGHT BLUE.) Press MUTE again or press VOL. $\triangle$ or ∇ to restore sound.

36. PICTURE Button

Press to enter picture adjustment mode.

37. Power cord

Connect to a standard AC outlet (120V/60Hz).

NOTE: Remove the power cord from the hook to avoid breaking a wire before you connect to a standard AC outlet.

38. AUDIO L/R output Jack

Connect to the analog audio input of an external amplifier or decoder.

39. COAXIAL digital audio out Jack (DVD Audio Only)

Connect to the digital input of an external amplifier or decoder.

40. ANT. in Jack

Connect to an antenna, cable system, or satellite system.

41. DC 13.2V Jack

Connect to the Car Battery Cord.

INSTALLING THE BATTERIES

- 1) Open the battery compartment cover by pressing the cover on the remote unit in the direction of the arrow.
- 2) Insert 2 "AA" penlight batteries into the battery compartment in the direction indicated by the polarity (+/-) markings.
- 3) Replace the cover.



NOTES

- Do not mix alkaline and manganese batteries.
- Do not mix old and new batteries.

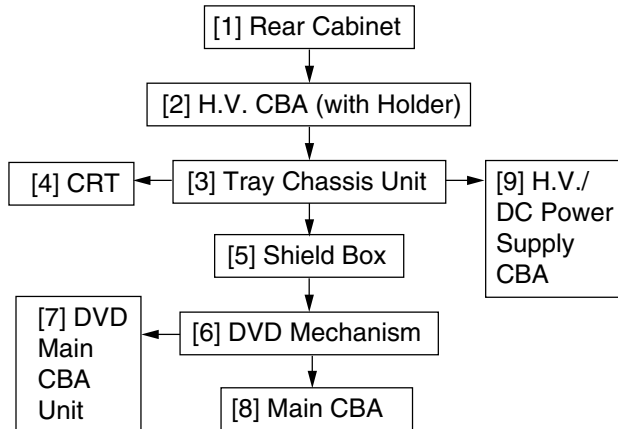
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[1]	Rear Cabinet	1	4(S-1), 1(S-2), 2(S-3)	-
[2]	H.V. CBA (With Holder)	3, 5	4(S-4), Anode Cap, CN501, CRT CBA, CN571, WH552, WH554	1
[3]	Tray Chassis Unit	3, 5	CN1802, CN1801	-
[4]	CRT	2	4(S-5)	-
[5]	Shield Box	3	5(S-6)	-
[6]	DVD Mechanism	3, 5	3(S-7), CN401, CN601	-
[7]	DVD Main CBA Unit	4	2(S-8), CN201, CN301	2-1 2-2 2-3 3
[8]	Main CBA	3	3(S-9)	-
[9]	H.V./DC Power Supply CBA	3	3(S-10), Shield Case Top, Shield Case Bottom	-
(1)	(2)	(3)	(4)	(5)

(1): Order of steps in Procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the identification (location) No. of parts in Figures.

(2): Parts to be removed or installed.

(3): Fig. No. showing Procedure of Part Location.

(4): Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two Screw (S-2)

(5): Refer to the following "Reference Notes in the Table."

Reference Notes in the Table

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

CAUTION 1: Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. Disconnect the following: Anode Cap, CN501, CRT CBA, CN571, WH552, WH554.

Then remove H.V. CBA (with Holder).

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

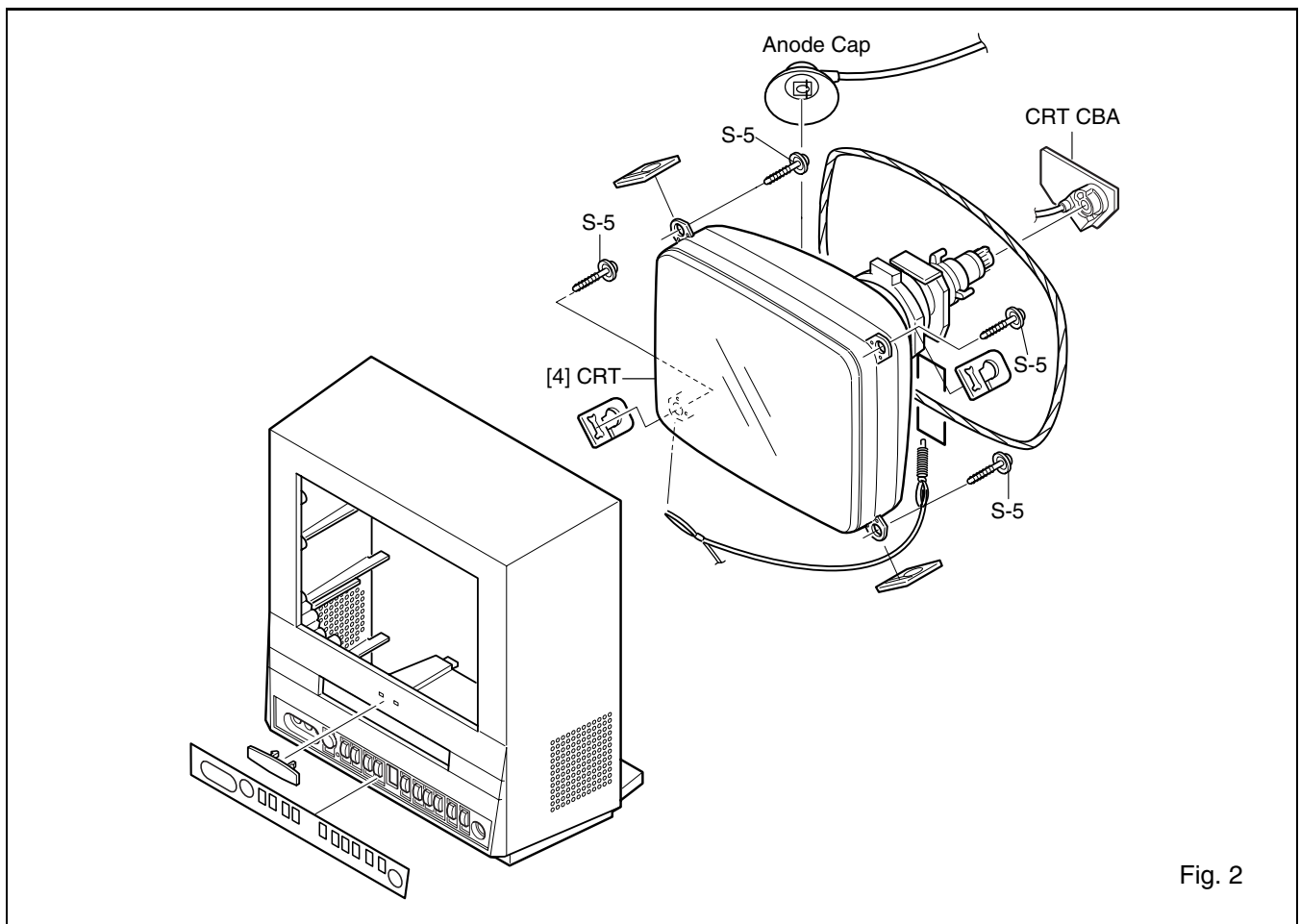
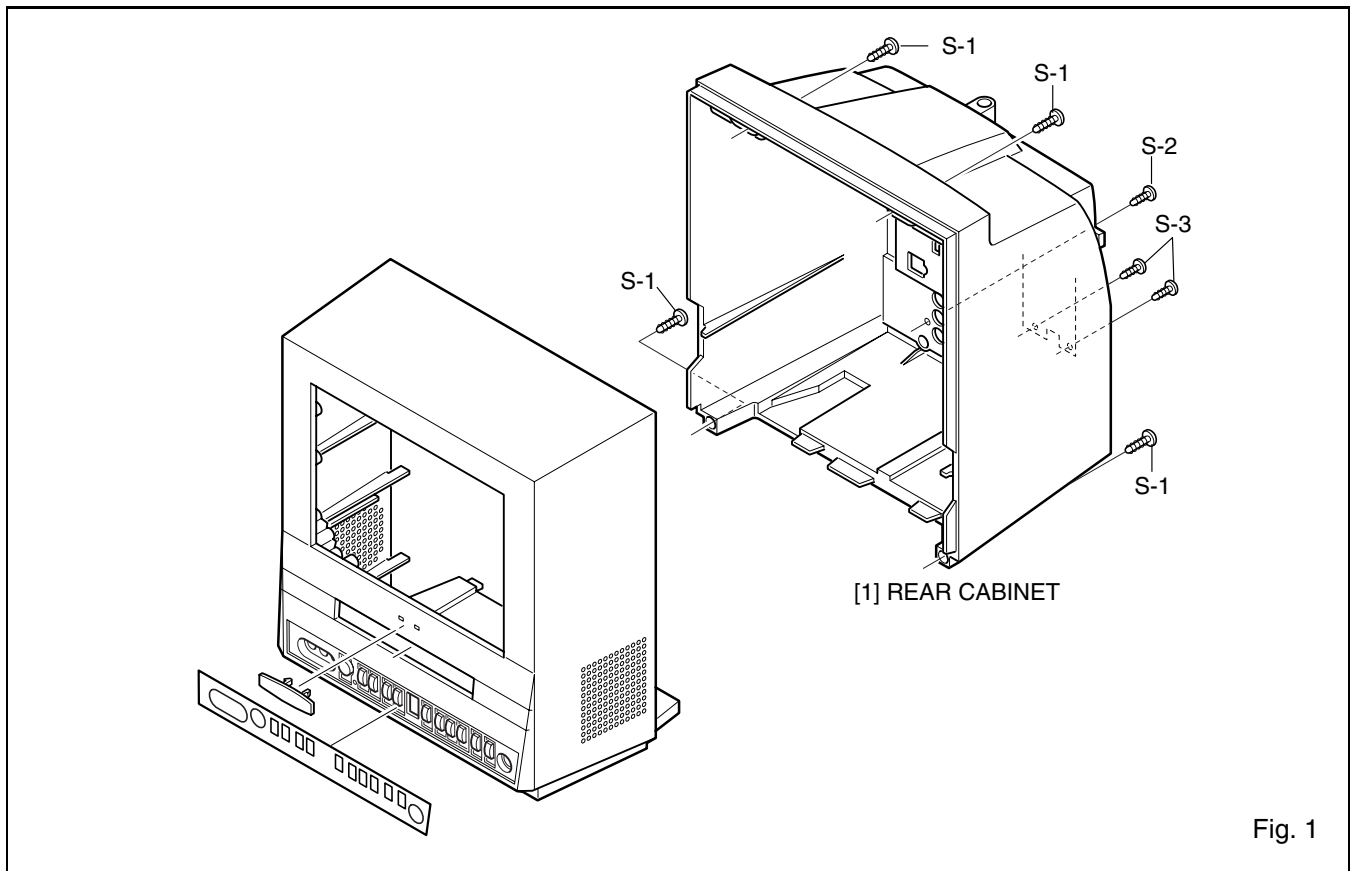
To avoid damage of pickup follow next procedures.

2-1. Disconnect Connector (CN301). Remove three Screws (S-7) and lift the DVD Mechanism. (Fig. 3)

2-2. Slide out the pickup unit as shown in Fig. 4.

2-3. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. 4)

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. 4)



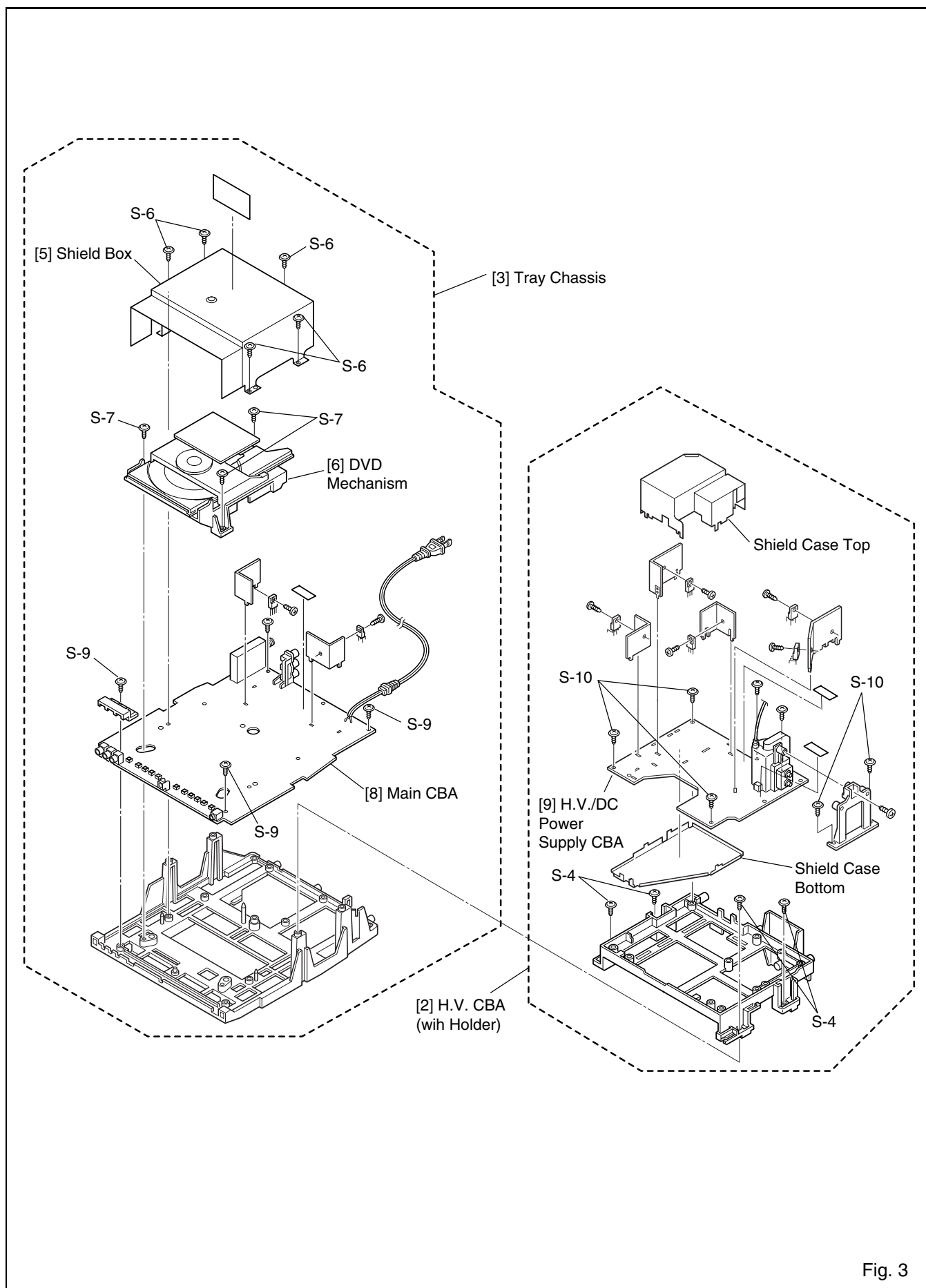


Fig. 3

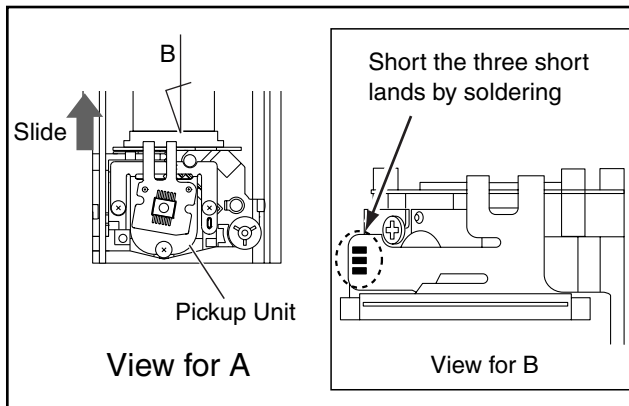
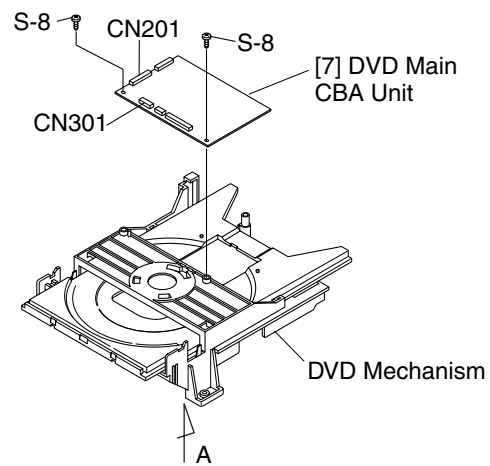


Fig. 4

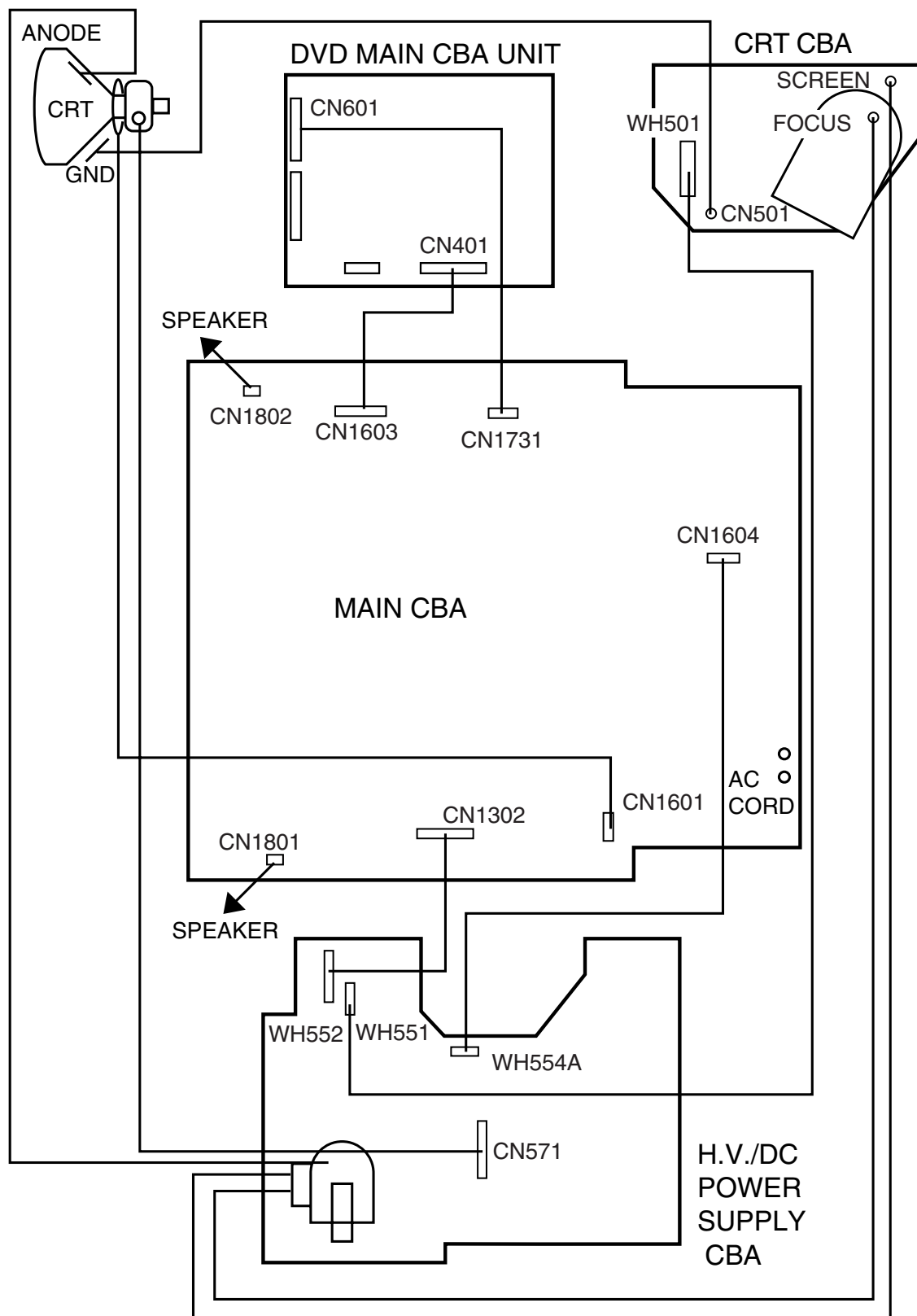


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:

"CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

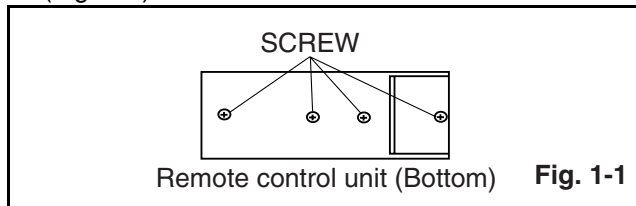
Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. DC Voltmeter
4. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div,
F-Range: DC~AC-60MHz
5. Frequency Counter
6. Plastic Tip Driver

How to make service remote control unit:

1. Prepare remote control unit. (Part No. NE200UD or NE207UD) Remove 4 screws from the back lid. (Fig. 1-1)



2. Remote control unit: Part No. NE200UD or NE207UD
Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire.

How to Set up the Service mode:

Service Mode:

1. Use the service remote control unit.
2. Turn the power on.
3. Press "DISC MENU" button on the service remote control unit.

1a. DC 117V (+B) Adjustment (AC Power)

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test point	Adj. Point	Mode	Input
J109 (+B) TP1303 (GND)	VR1601	---	-----
Tape	M. EQ.	Spec.	
---	DC Voltmeter Plastic Tip Driver	+117±0.5V DC	

Note: J109 (+B) --- HV/DC Power Supply CBA
TP1303 (GND), VR1601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to J109 (+B) and TP1303 (GND).
3. Adjust VR1601 so that the voltage of J109 (+B) becomes +117±0.5V DC.

1b. DC 117V (+B) Adjustment (DC Power)

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test point	Adj. Point	Mode	Input
J109 (+B) TP1303 (GND)	VR951	---	----
Tape	M. EQ.	Spec.	
---	DC Voltmeter Plastic Tip Driver	+117±0.5V DC	

Note: J109(+B), VR951 --- HV/DC Power Supply CBA
TP1303(GND) --- Main CBA

1. Input 13.2V DC to DC Jack.
2. Connect DC Volt Meter to J109(+B) and TP1303(GND).
3. Adjust VR1951 so that the voltage of J109(+B) becomes +117±0.5V DC.

2. Black Stretch Control Adjustment

Purpose: To show the fine black color.

Symptom of Misadjustment: Black color will not appear correctly.

Note: Use service remote control unit.

1. Enter the Service mode. (See page 1-7-1)
2. Press "6" button on the service remote control unit. "B-S" is indicated.
3. Press "CH ▲ / ▼" buttons on the service remote control unit so that display will change "OFF," "0," "1," "2" and "3." Then choose "B-S OFF."
4. Press "6" button on the service remote control unit. "BS-2" is indicated.
5. Press "CH ▲ / ▼" buttons on the service remote control unit so that display will change "0," "1," "2" and "3." Then choose "BS-2 0."
6. Turn the power off and on again, using the main power button on the TV unit.

3-1. Setting for Data Values

General

1. Enter the Service mode. (See page 1-7-1)
2. To select the Data Value, press "VOL ▼" button on the service remote control unit.
3. To set the following each data value, press "CH ▲ / ▼" buttons on the service remote control unit.

7F --- set to FF

3-2. Setting for CONTRAST, COLOR, TINT and V-TINT data Values

General

1. Enter the Service mode. (See page 1-7-1)
2. Press "PICTURE" button on the service remote control unit. Display changes "BRIGHT," "CONTRAST," "COLOR," "TINT," and "V-TINT" cyclically when "PICTURE" button is pressed.

CONTRAST (CNT)

1. Press "PICTURE" button on the service remote control unit. Then select "CONTRAST" (CNT) display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "CONTRAST" (CNT) becomes 90.

COLOR (CLR)

1. Press "PICTURE" button on the service remote control unit. Then select "COLOR" (CLR) display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "COLOR" (CLR) becomes 55.

TINT (TNT)

1. Press "PICTURE" button on the service remote control unit. Then select "TINT" (TNT) display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "TINT" (TNT) becomes 64.

V-TINT (V-TNT)

1. Press "PICTURE" button on the service remote control unit. Then select "V-TINT" (V-TNT) display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "V-TINT" (V-TNT) becomes 57.

Note: **BRIGHT** data value does not need to be adjusted at this moment.

4. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

1. Enter the Service mode. (See page 1-7-1.)
Press "9" button on the remote control unit and select V-S Mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

5. V. Position Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of misadjustment: If V. Position is incorrect, vertical height of image on the screen may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	Screen Control, CH ▲ / ▼ buttons	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

Note: Use service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service Mode. (See page 1-7-1)
3. Receive the Monoscope Pattern.
4. Press "9" button on the service remote control unit and select "V-P" mode. (Display change "V-S" and "V-P" cyclically when "9" button is pressed.)
5. Press "CH ▲ / ▼" buttons on the service remote control unit so that the top and bottom of the monoscope pattern will be equal of each other.
6. Turn the power off and on again, using the main power button on the TV unit.

6. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: If H. Position is incorrect, horizontal position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons [H-P] Mode	RF	Mono- scope
Tape	M. EQ.	Spec.	
---	Monoscope	90±5%	

Note: Use service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See page 1-7-1)
3. Receive the Monoscope Pattern.
4. Press "8" button on the remote control unit and select "H-P" mode.
5. Press "CH ▲ / ▼" buttons on the service remote control unit so that the monoscope pattern will be 90±5% of display size and the circle is round.
6. Turn the power off and on again, using the main power button on the TV unit.

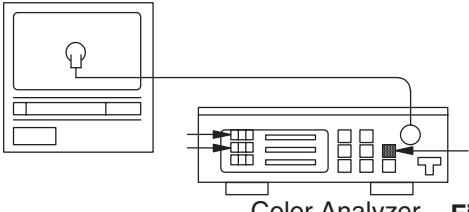
7. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	CH ▲ / ▼ buttons	RF	White Raster (APL 100%)
Tape	M. EQ.	Spec.	
	Pattern Generator, Color analyzer	See below	

Figure



Color Analyzer **Fig. 2**

Note: Use service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to east. Degauss the CRT using Degaussing Coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode. Press "VOL ▼" button on the service remote control unit and select "C/D" mode. (Display changes "C/D," "7F," and "DVD-KEY" cyclically when "VOL ▼" button is pressed.) Then press "8" button on the Service remote control Unit.
6. Press "4" button on the service remote control unit for Red adjustment. Press "5" button on the service remote control unit for Blue adjustment.
7. In each color mode, press "CH ▲ / ▼" button to adjust the values of color.
8. Adjusting Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) $\pm 3\%$.
9. At this time, re-check that Horizontal line is white. If not, Re-adjust Cut-off Adjustment until the Horizontal Line becomes pure white.
10. Turn off and on again to return to normal mode. Receive APL 100% white signal and Check Chroma temperatures become 9200K (x: 286 / y: 294) $\pm 3\%$.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

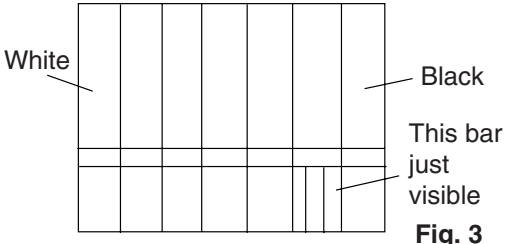
8. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	RF	IQW
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure



White

Black

This bar just visible

Fig. 3

Note: IQW Setup level --- 7.5 IRE

Use service remote control unit

1. Enter the Service mode. (See page 1-7-1) Then input IQW signal from RF Input.
2. Press "PICTURE" button on the service remote control unit and Select "BRT" mode. (Display changes "BRT," "CNT," "CLR," "TNT," and "V-TINT" cyclically when PICTURE button is pressed.) Press "CH ▲ / ▼" buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again, using the main power button on the TV unit.

9. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus Control	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note: Focus VR (FBT) --- HV/DC Power Supply CBA
FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

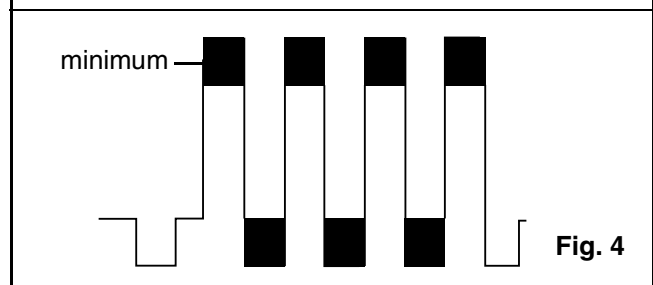
10. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test point	Adj. Point	Mode	Input
D1311 Cathode (B-OUT)	CH ▲ / ▼ buttons	---	Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope Pattern Generator	---	

Figure



Note: D1311 Cathode (B-Out)--- Main CBA

1. Connect Oscilloscope to D1311 Cathode.
2. Input a color bar signal from RF input.
Enter the Service mode. (See page 1-7-1.)
3. Press "0" button on the remote control unit and select C-TRAP Mode.
4. Press "CH ▲ / ▼" buttons on the remote control unit so that the carrier leakage B-Out (3.58MHz) value becomes minimum on the oscilloscope.
5. Turn the power off and on again.

11. H f0 Adjustment

Purpose: To get correct horizontal frequency.

Symptom of Misadjustment: If H f0 adjustment is in correct, skew distortion will appear on the screen.

Test Point	Adj. Point	Mode	Input
R583	CH ▲ / ▼ button ["H-ADJ"] MODE		---
Tape	M. EQ.	Spec.	
---	Frequency Counter	15.734kHz±300Hz	

Note: R583 --- HV/DC Power Supply CBA
Use Service remote control unit.

1. Connect Frequency Counter to R583 and ground.
2. Set the unit to the VIDEO mode which is located before CH2 and no input is necessary. Enter the Service mode. (See page 1-7-1)
3. Operate the unit for at least 20 minutes.
4. Press "2" button on the Service remote control unit and select H-ADJ Mode. (By pressing "2" button the display will change from TV AGC to H-ADJ.)
5. Press "CH ▲ / ▼" button on the Service remote control unit so that the display will change "0" ~ "7." At this moment, Choose display one of them from "0" ~ "7" when the Frequency Counter shows 15.734 kHz±300Hz or closer.
6. Turn the power off and on again. (Main Power button on the TV unit.)

12. Y DL Time/Y SW LPF Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If Y DL Time Adjustment is incorrect, stripes will appear on the screen.

1. Enter the Service Mode. (See page 1-7-1.)
2. **Y DL Time Adjustment:** Press "0" button on the service remote control unit twice to show "D-T" on the display.
Y SW LPF Adjustment: Press "0" button on the service remote control unit four times to show "Y SW" on the display.
3. **Y DL Time Adjustment:** Select "2" by pressing "CH ▲ / ▼" buttons on the service remote control to enter Y DL Time Adjustment mode.
Y SW LPF Adjustment: Select "1" by pressing "CH ▲ / ▼" buttons on the service remote control to enter Y SW LPF Adjustment mode.
4. If needed, perform the following.

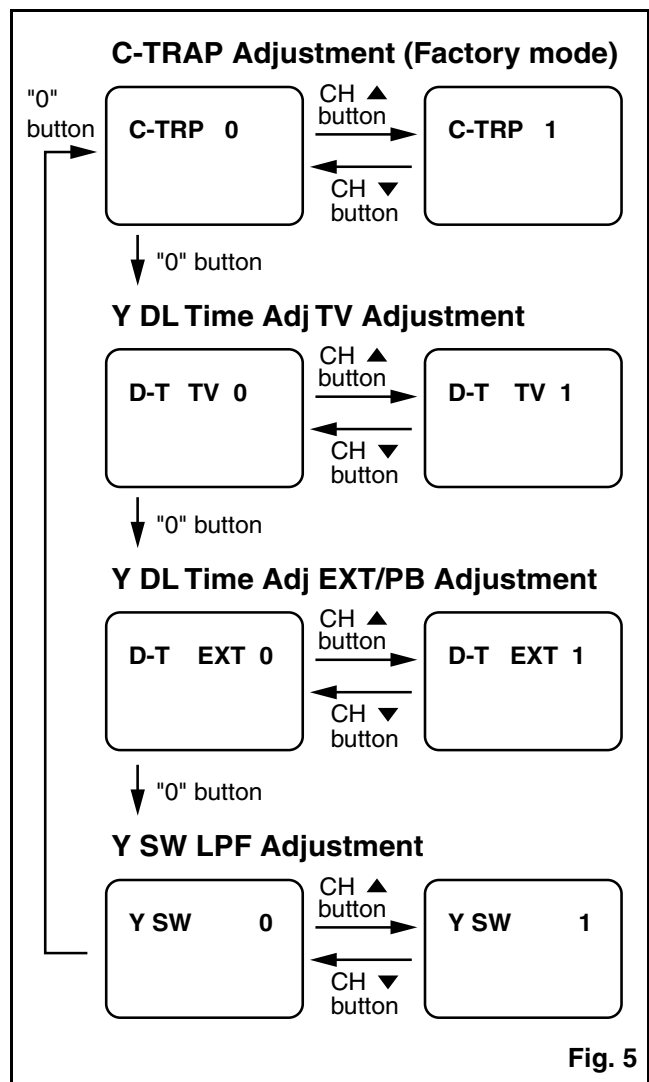


Fig. 5

13. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adj. Point	Mode	Input
---	Screen-Control CH ▲ / ▼ buttons	RF	Black Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	

Figure

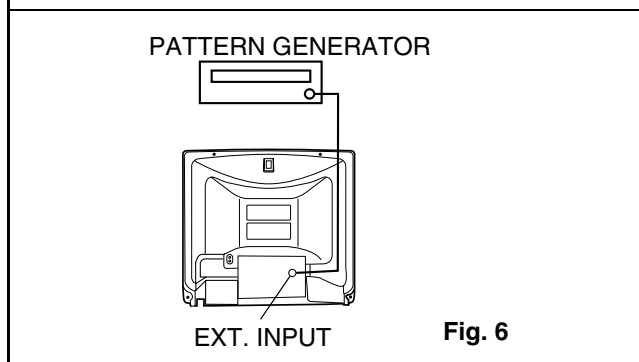


Fig. 6

Note: Screen Control FBT --- HV/DC Power Supply CBA
 FBT= Fly Back Transformer
 Use service remote control unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black Raster Signal from RF Input.
3. Enter the Service mode. (See page 1-7-1)
4. Press "VOL ▼" button on the service remote control unit and select "C/D" mode. (Display changes "C/D," "7F," and "DVD-KEY" cyclically when "VOL ▼" button is pressed.) then press "1." The display will momentarily show "CUT OFF R" (R= Red.) Now there should be a horizontal line across the center of the picture tube. If needed gradually turn the screen control on the flyback, clockwise until the horizontal line appears. Adjust the Red Cut off by pressing the "CH ▲ / ▼" buttons. Proceed to Step 5 when the Red Cut off adjustment is done.
5. Press the "2" button. The display will momentarily show "CUT OFF G" (G=Green.) Adjust the Green Cut off by pressing the "CH ▲ / ▼" buttons. Proceed to step 6 when the Green Cut off adjustment is done.
6. Press the "3" button. The display will momentarily show "CUT OFF B" (B=Blue.) Adjust the Blue cut off by pressing the "CH ▲ / ▼" buttons. When done with steps 4, 5 and 6 the horizontal line should be pure white if not, then attempt the Cut off adjustment again.

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

14. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Figure

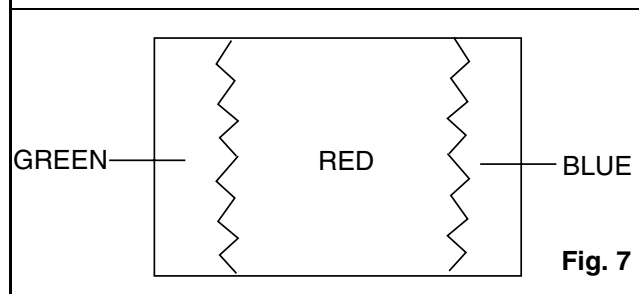


Fig. 7

* This becomes RED COLOR if push 7KEY with a service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX Mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 8.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 7,8.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

15. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test point	Adj. Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Figure

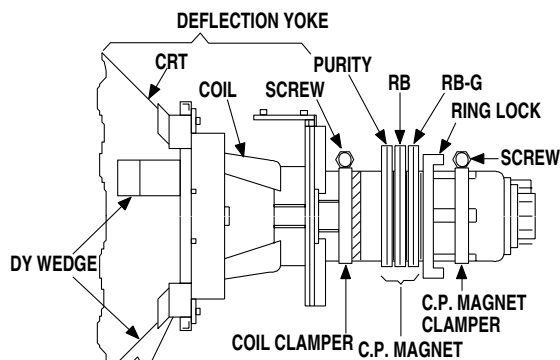


Fig. 8

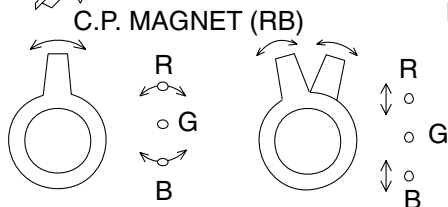


Fig. 9

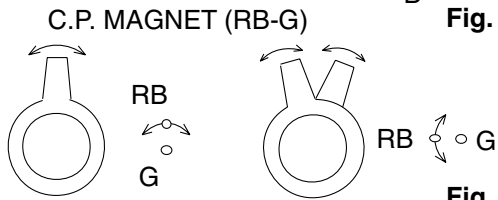


Fig. 10

1. Set the unit to the AUX Mode which is located before CH2 then input a Dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 9.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 10.)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. The tray will open automatically.
Fig. a appears on the screen.

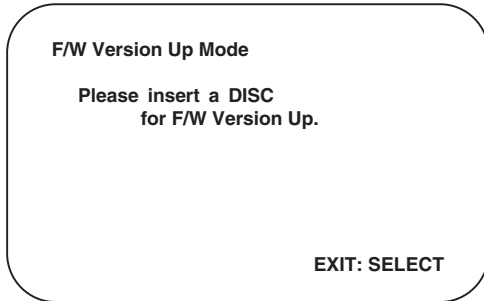


Fig. a Version Up Mode Screen

The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The DVD player enters the F/W version up mode automatically. Fig. b appears on the screen.

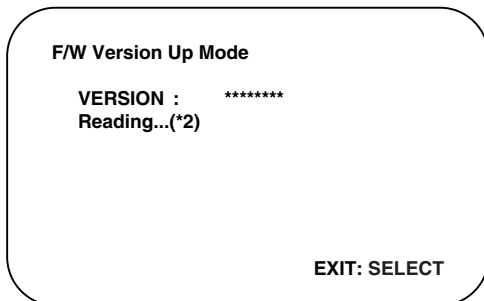


Fig. b Programming Mode Screen

The appearance shown in (*2) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen.

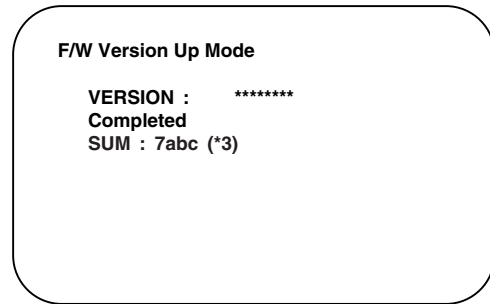


Fig. c Completed Program Mode Screen

At this time, no buttons are available.

6. Unplug the AC cord from the AC outlet. Then plug it again.
7. Turn the power on by pressing the power button and the tray will close.
8. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
Fig. d appears on the screen.

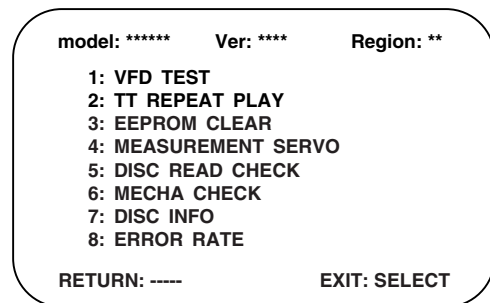


Fig. d

9. Press [3] button on the remote control unit.
Fig. e appears on the screen.

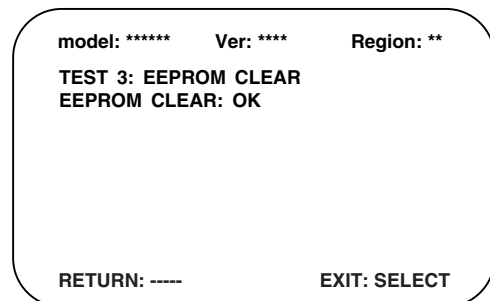
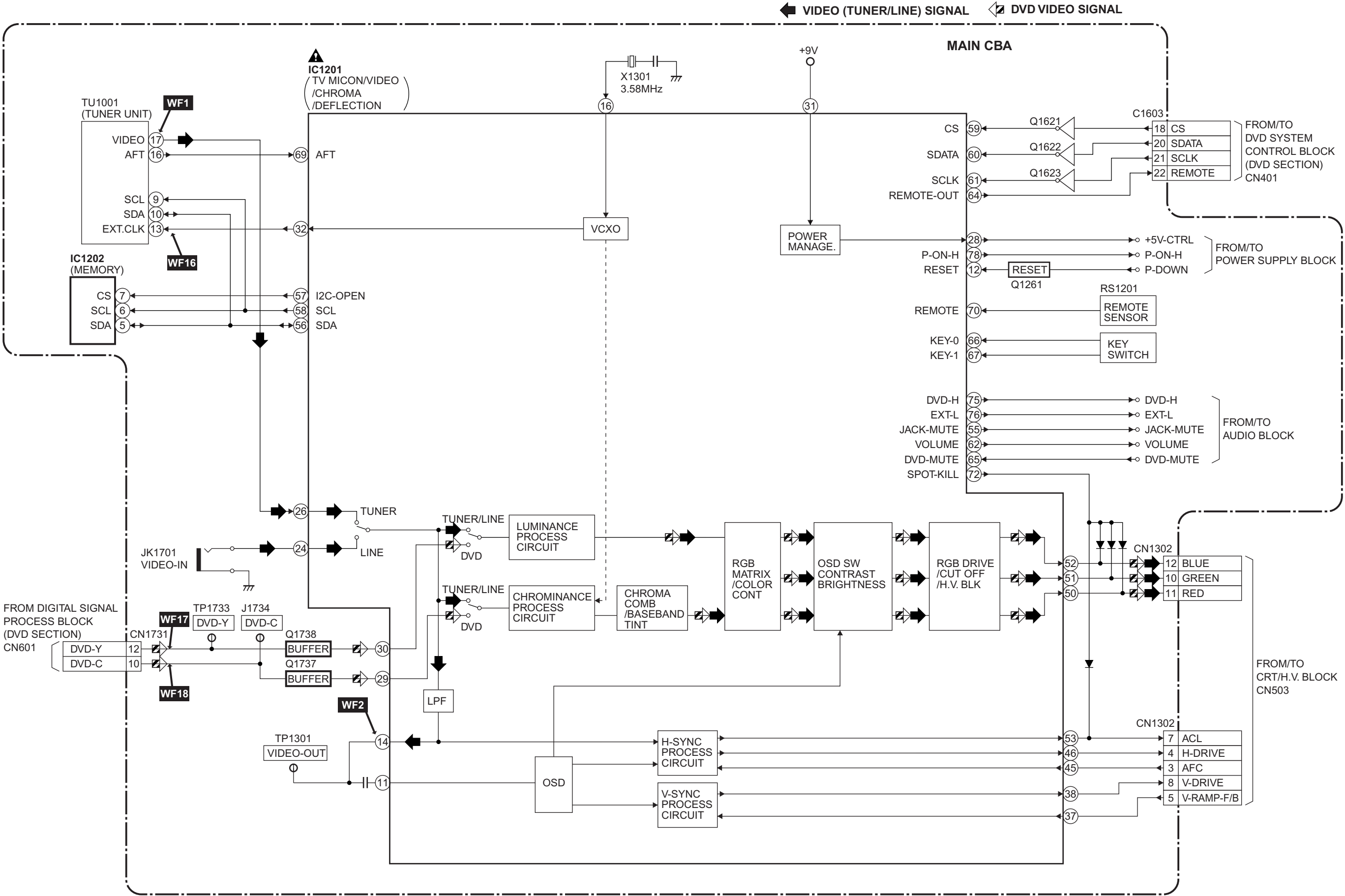


Fig. e

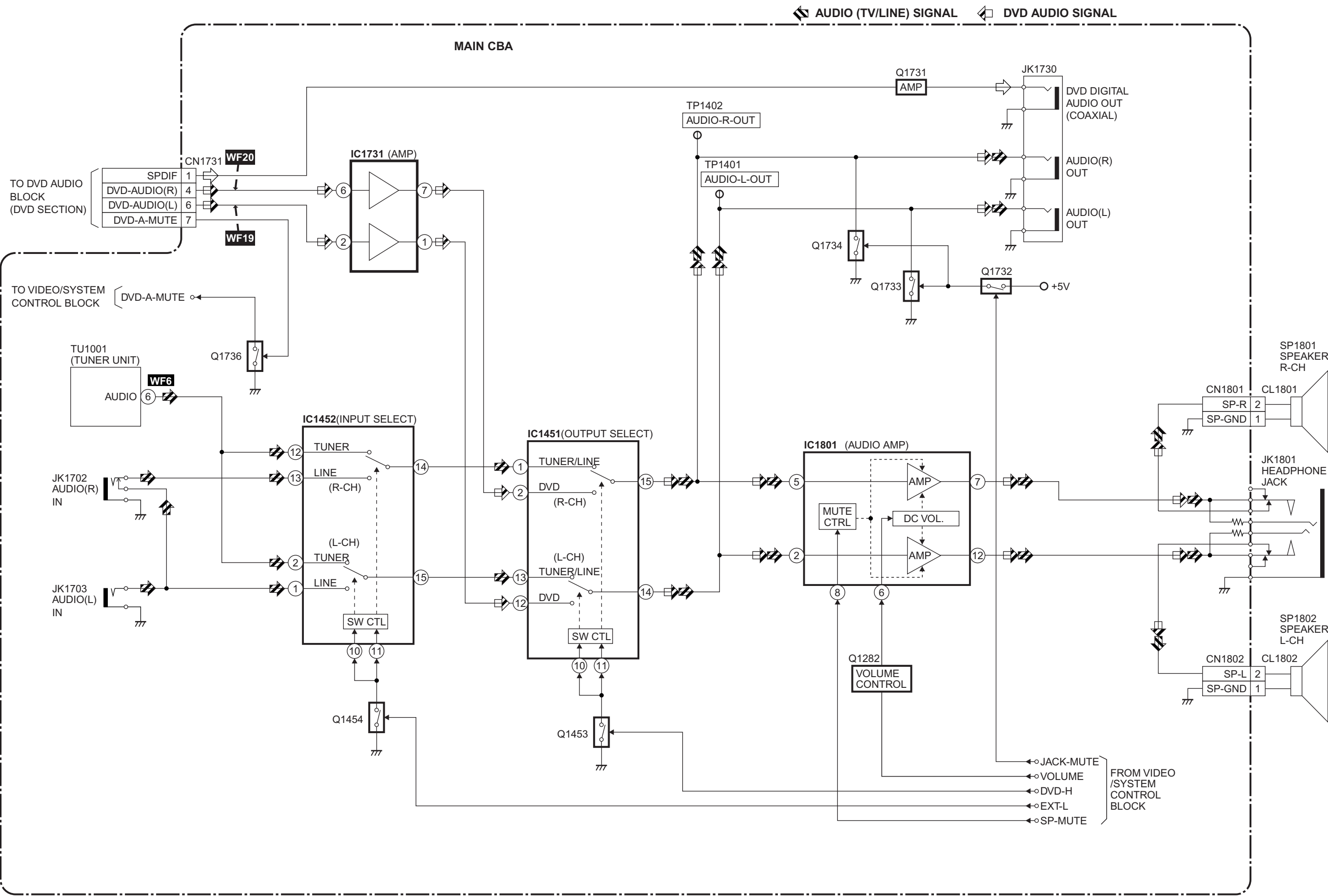
10. To finish this mode, press [POWER] button.

BLOCK DIAGRAMS < TV SECTION >

Video/System Control Block Diagram



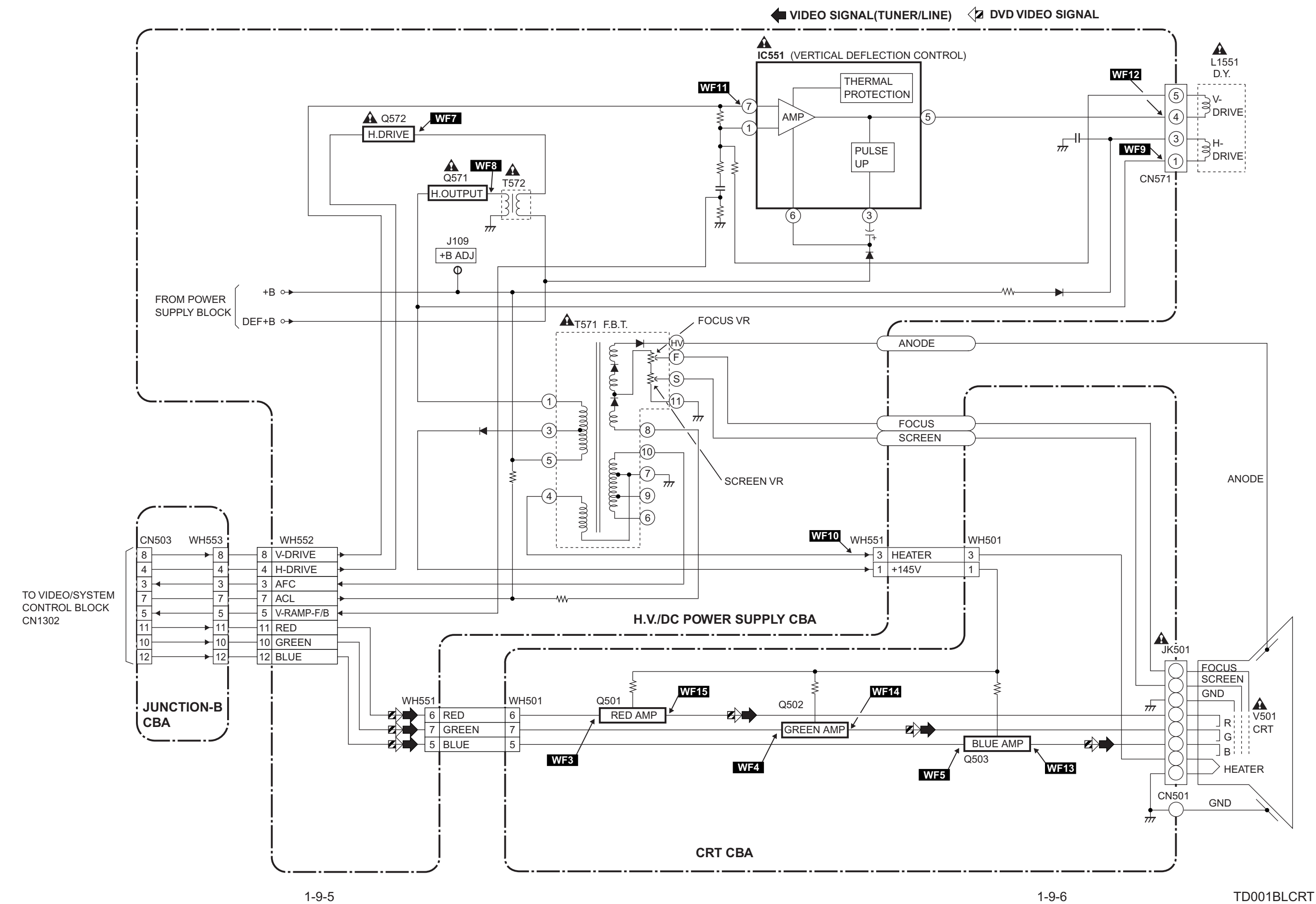
Audio Block Diagram



AUDIO (TV/LINE) SIGNAL DVD AUDIO SIGNAL

MAIN CBA

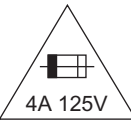
CRT/H.V. Block Diagram



Power Supply Block Diagram

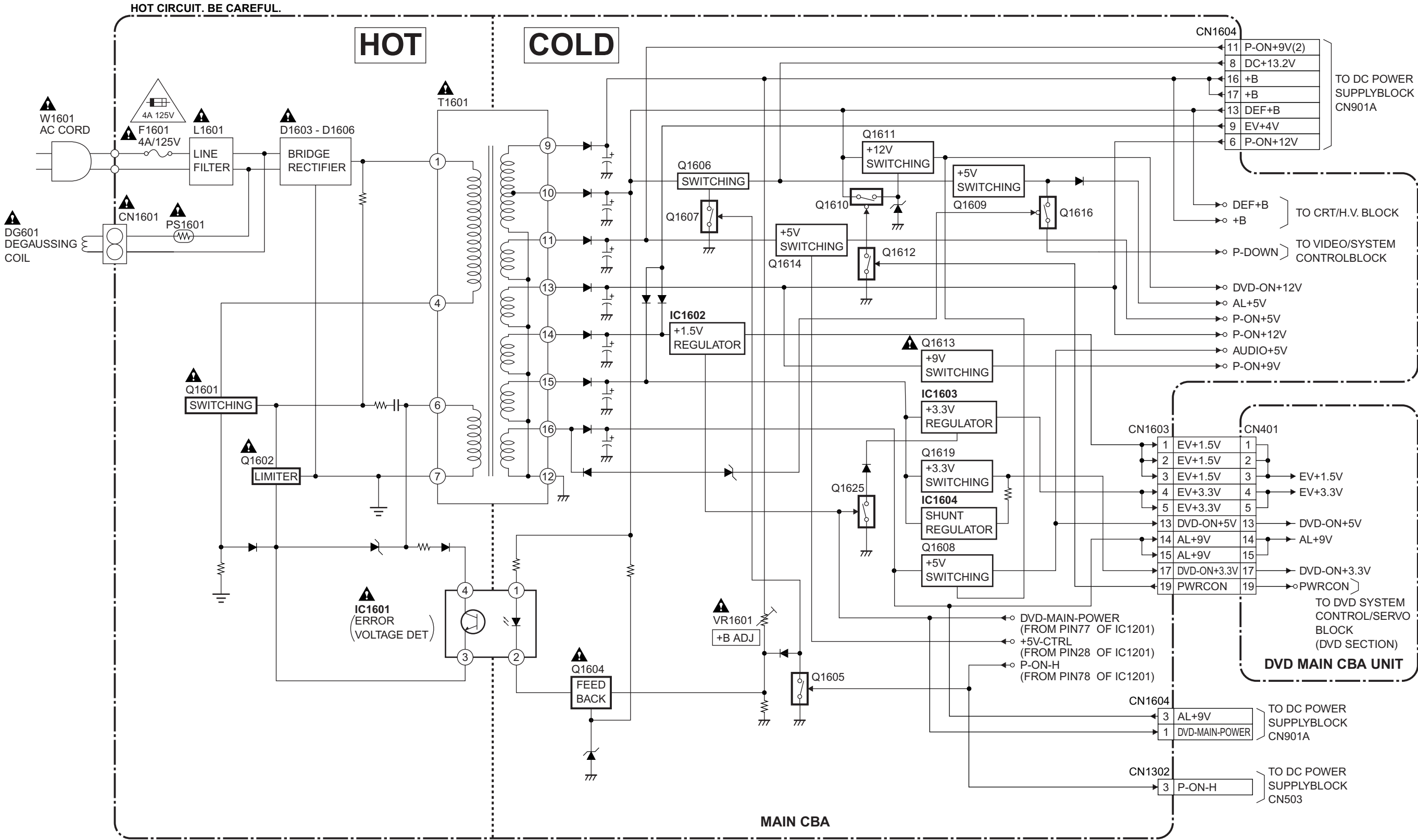
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



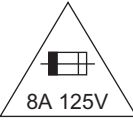
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE 4 A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

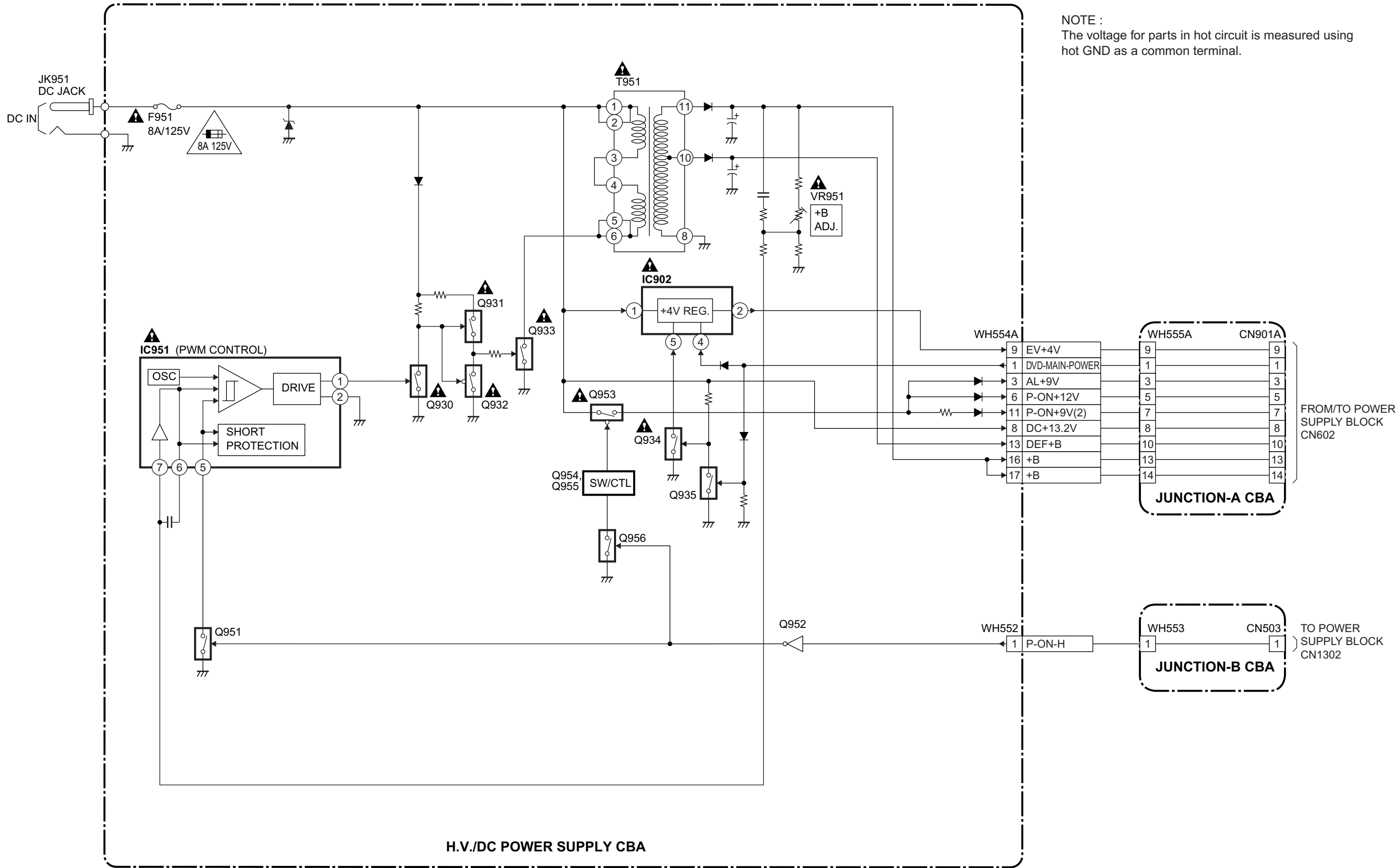


DC Power Supply Block Diagram

Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F951) is blown, check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

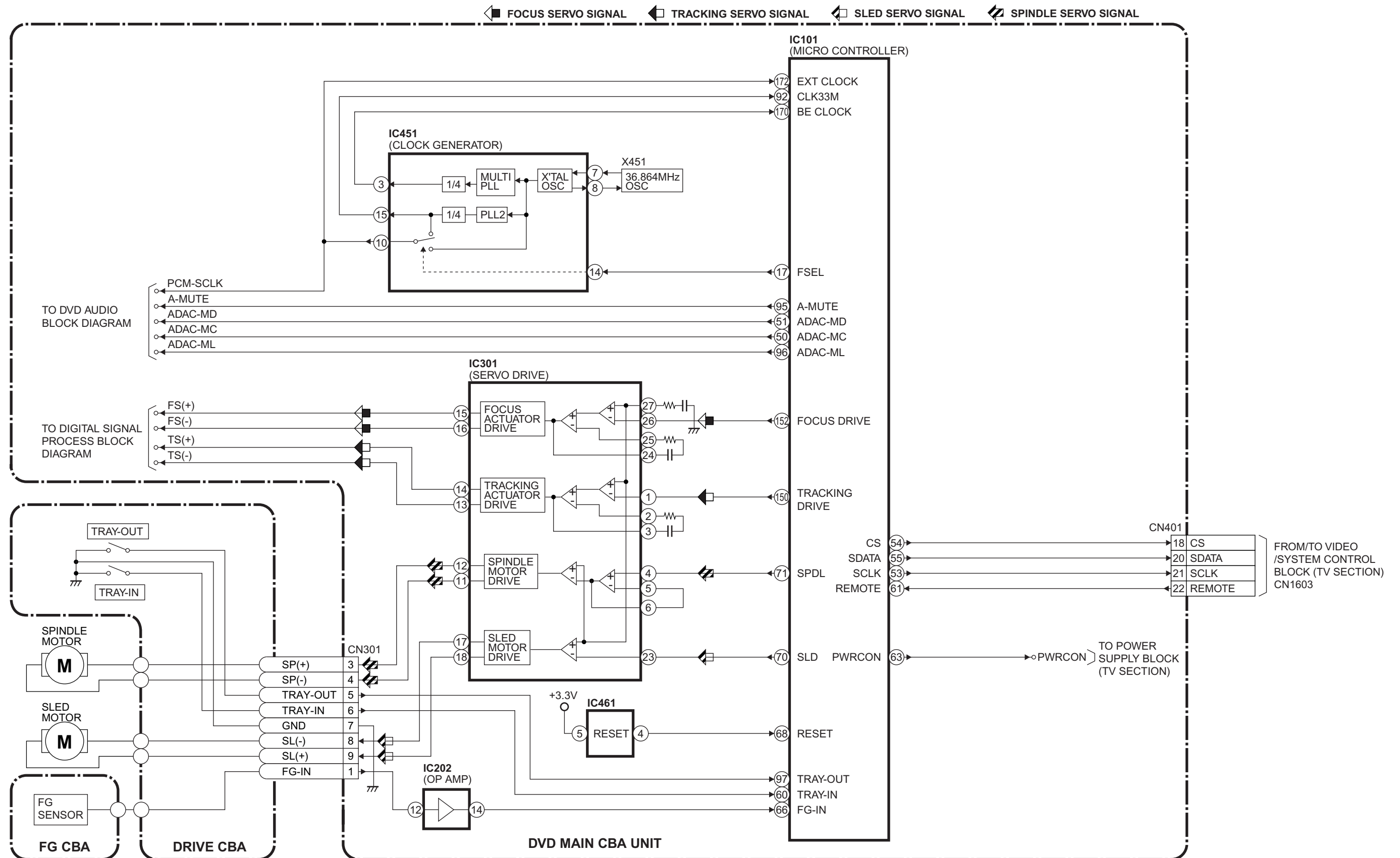


CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE 8 A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 8A, 125V.



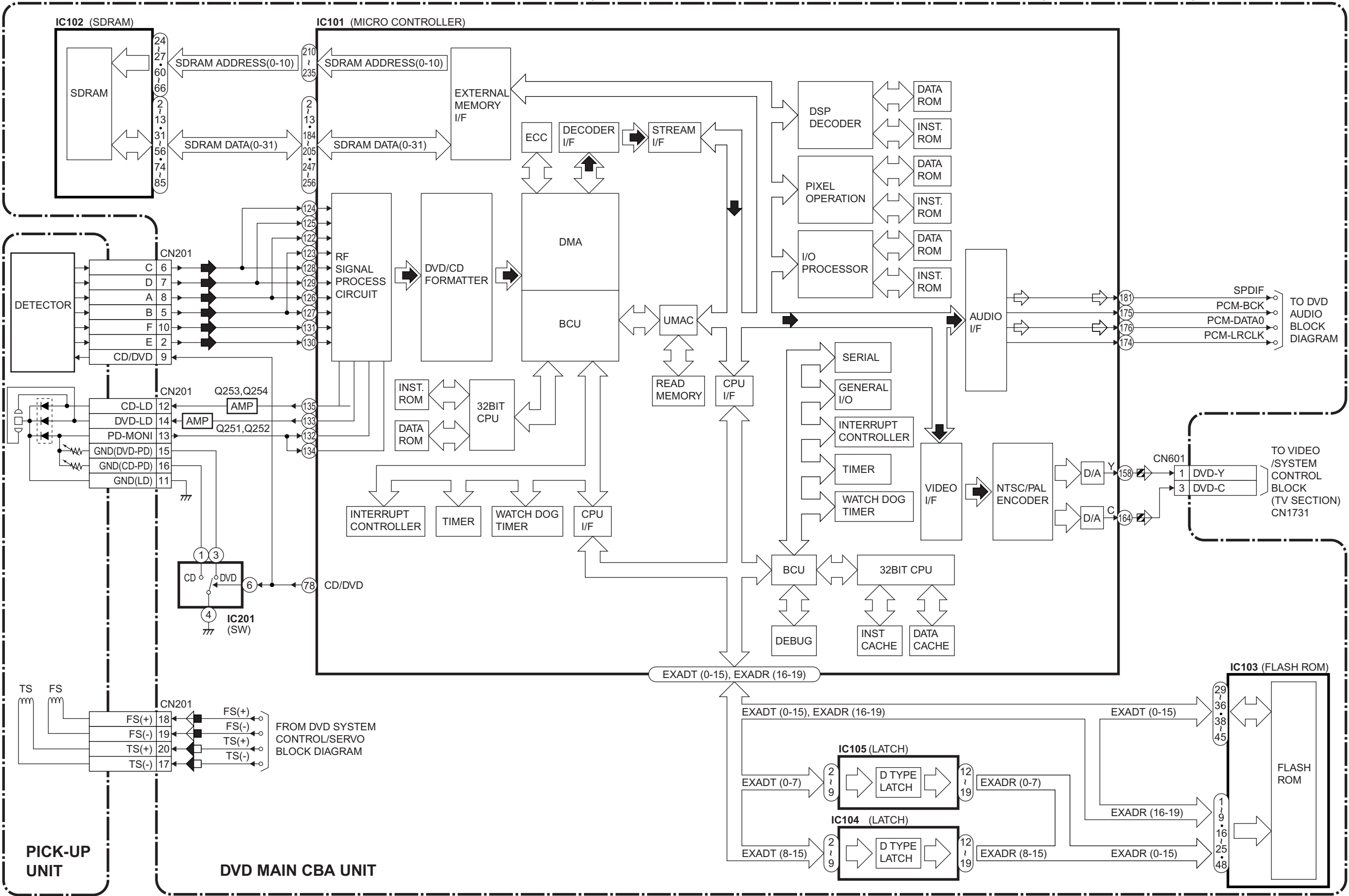
BLOCK DIAGRAMS < DVD Section >

DVD System Control/Servo Block Diagram

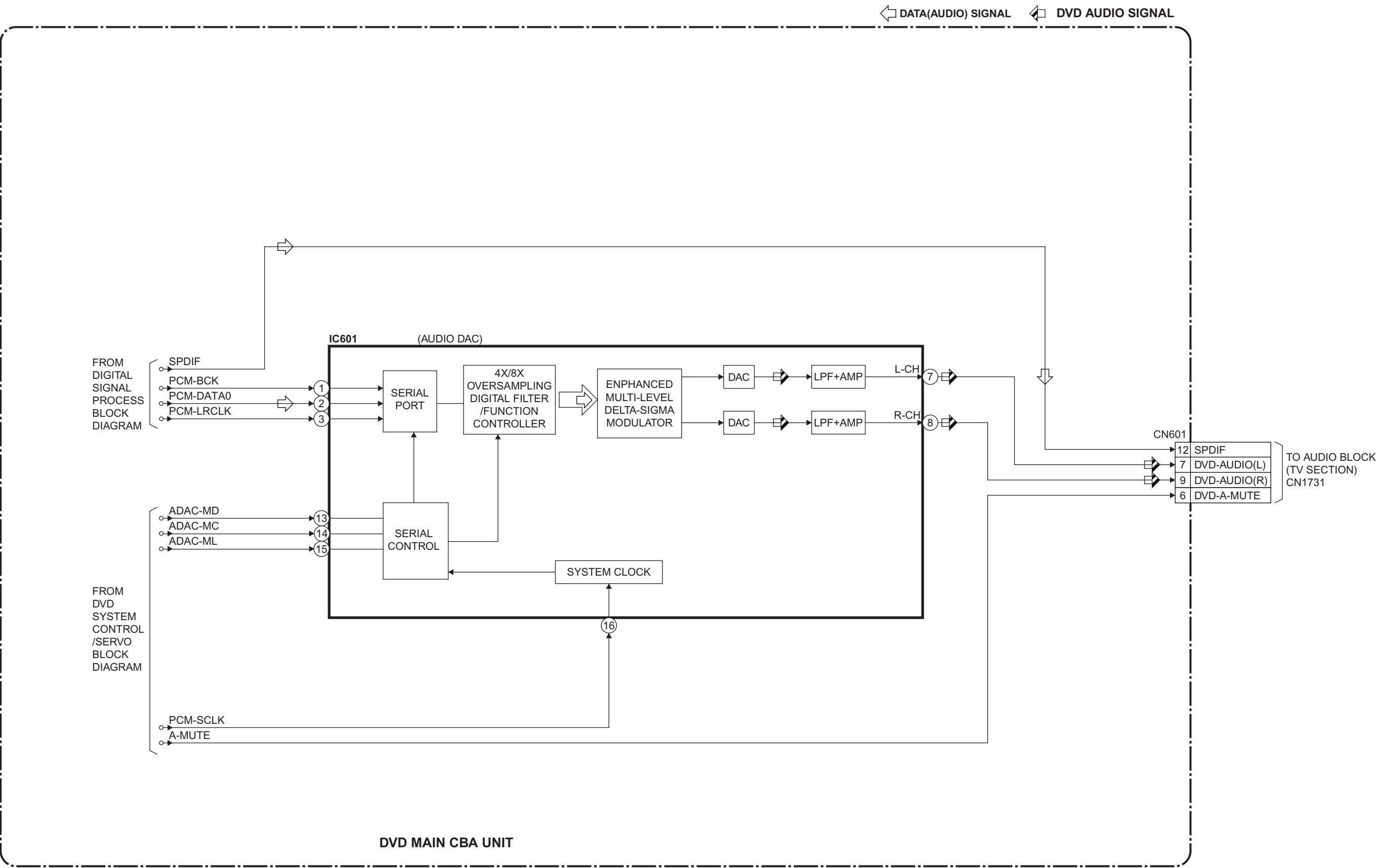


Digital Signal Process Block Diagram

DATA(VIDEO/AUDIO) SIGNAL DVD VIDEO SIGNAL DATA(AUDIO) SIGNAL FOCUS SERVO SIGNAL TRACKING SERVO SIGNAL



DVD Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Warning

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "▲" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

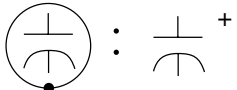
1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}\mu F$).
5. All voltages are DC voltages unless otherwise specified.

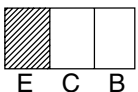
Capacitor Temperature Markings

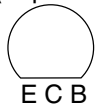
Mark	Capacity change rate	Standard temperature	Temperature range
(B)	$\pm 10\%$	20°C	-25~+85°C
(F)	+30 -80%	20°C	-25~+85°C
(SR)	$\pm 15\%$	20°C	-25~+85°C
(Z)	+30 -80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

CBA Symbols

(Top View) (Bottom View)
 : Electrolytic Capacitor

(Bottom View)
 : Transistor or Digital Transistor

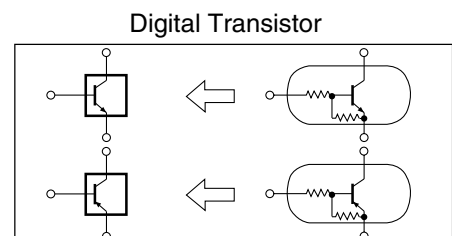
(Top View)
 NPN Transistor

(Top View)
 PNP Transistor

(Top View)
 NPN Digital Transistor

(Top View)
 PNP Digital Transistor

Schematic Diagram Symbols



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.

ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

If Main Fuse (F1601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

- (1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
- (2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

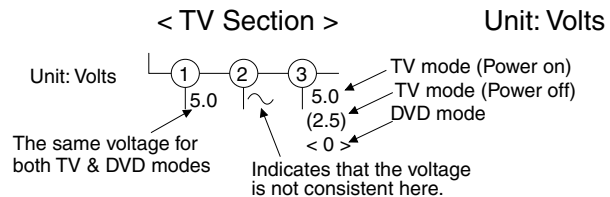
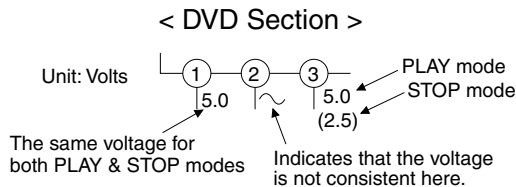
4. Wire Connectors

- (1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
- (2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Mode: SP/REC

6. Voltage indications on the schematics are as shown below:

Plug the TV power cord into a standard AC outlet.:

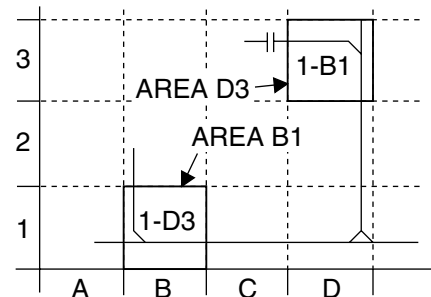


7. How to read converged lines

1-D3
↑ Distinction Area
↑ Line Number
(1 to 3 digits)

Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



8. Test Point Information

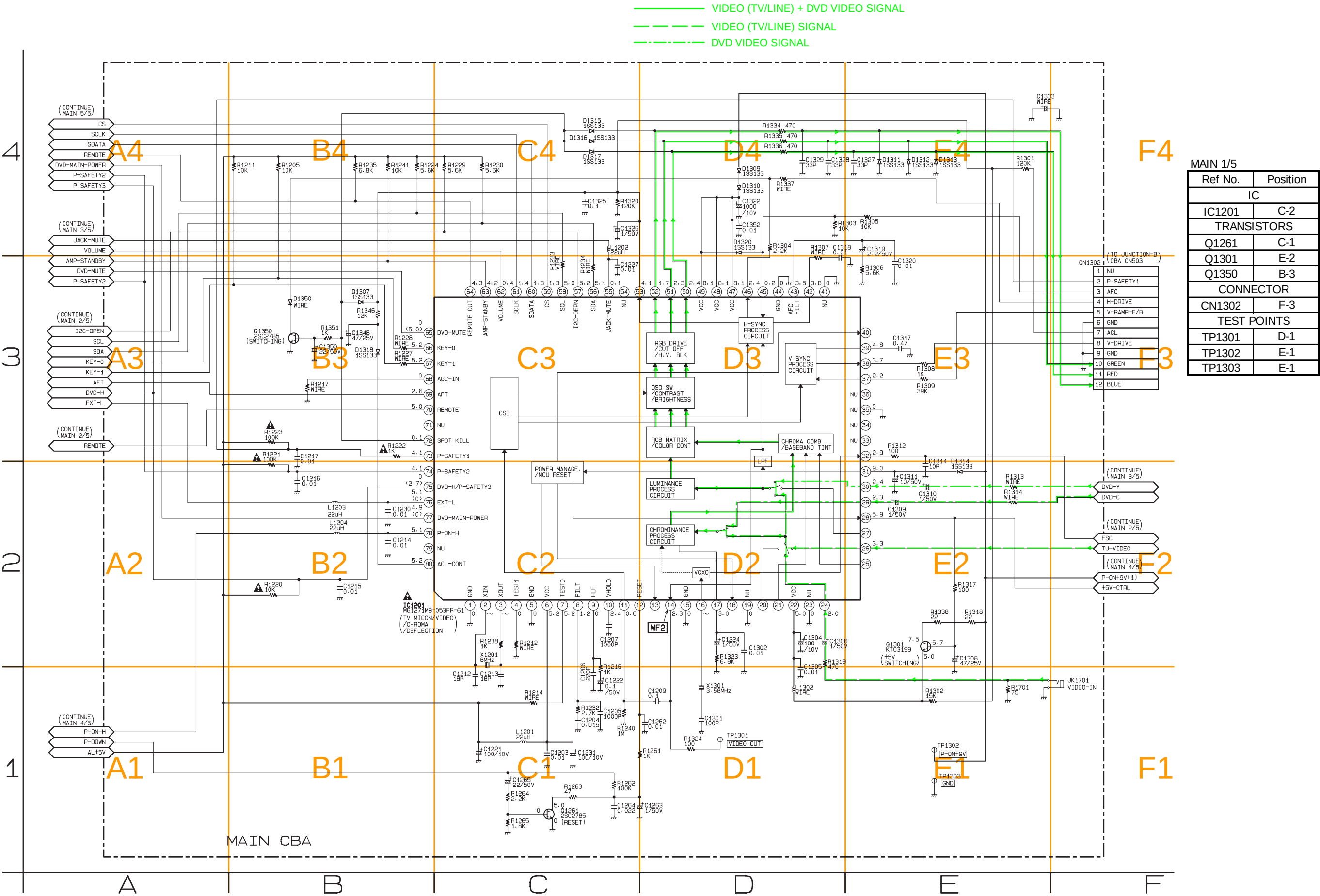
⊙ : Indicates a test point with a jumper wire across a hole in the PCB.

□→ : Used to indicate a test point with a component lead on foil side.

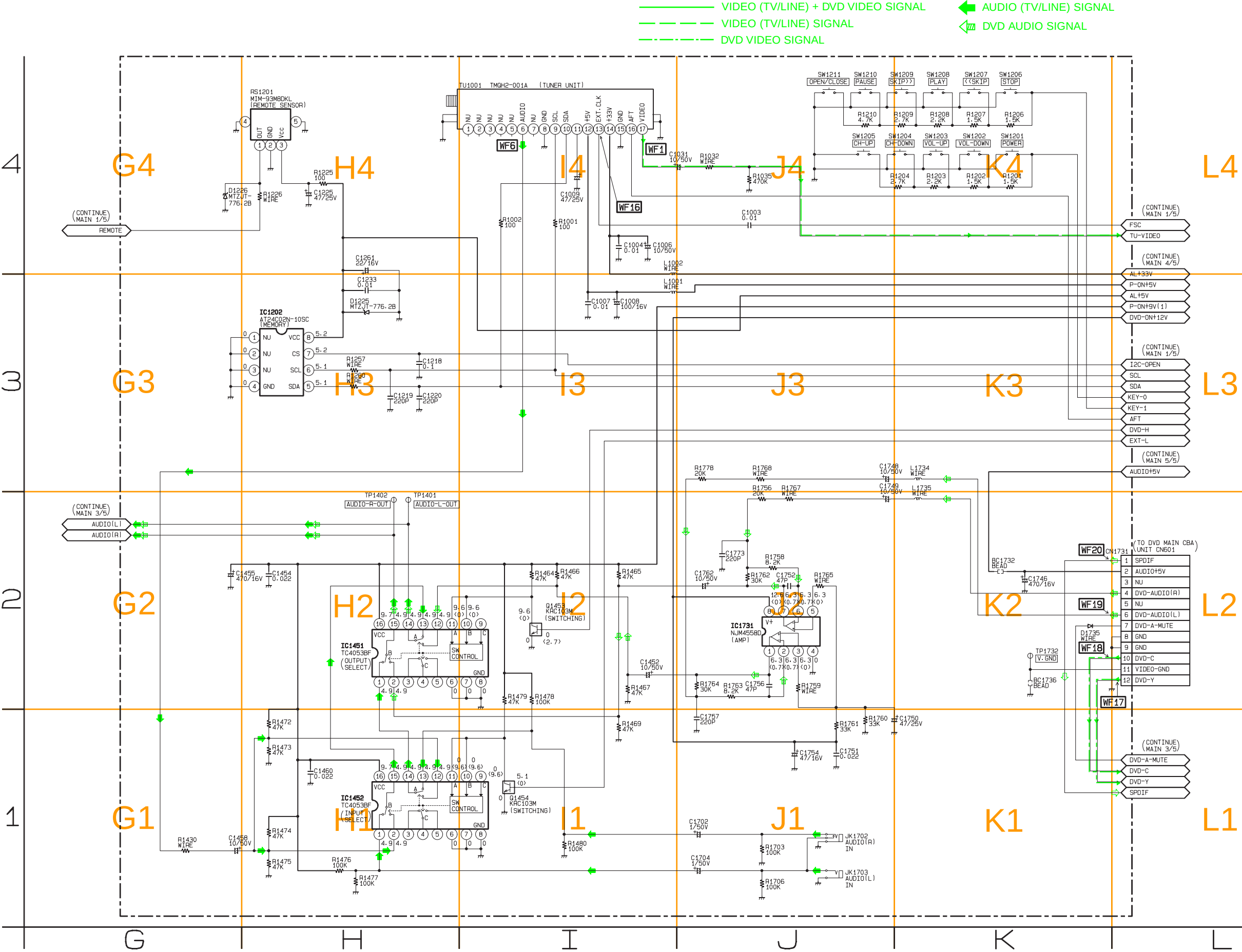
⊘ : Used to indicate a test point with no test pin.

● : Used to indicate a test point with a test pin.

Main 1/5 Schematic Diagram < TV Section >



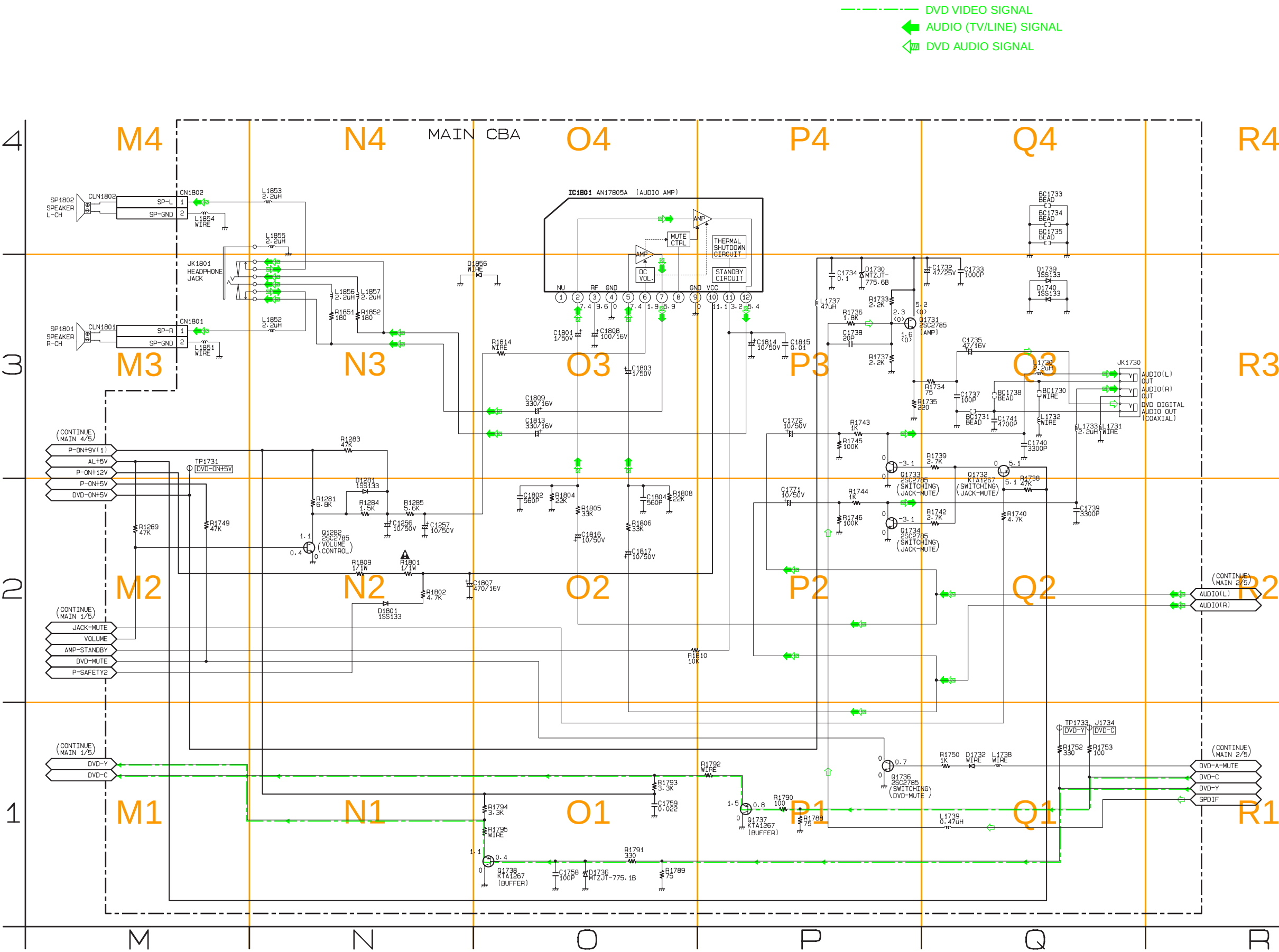
Main 2/5 Schematic Diagram < TV Section >



MAIN 2/5

Ref No.	Position
ICS	
IC1202	H-3
IC1451	H-2
IC1452	H-1
IC1731	J-2
TRANSISTORS	
Q1453	I-2
Q1454	I-1
CONNECTOR	
CN1731	L-2
TEST POINTS	
TP1401	H-2
TP1402	H-2
TP1732	K-2

Main 3/5 Schematic Diagram < TV Section >



MAIN 3/5	
Ref No.	Position
IC	
IC1801	O-4
TRANSISTORS	
Q1282	N-2
Q1731	P-3
Q1732	Q-3
Q1733	P-3
Q1734	P-2
Q1736	P-1
Q1737	P-1
Q1738	O-1
CONNECTORS	
CN1801	M-3
CN1802	M-4
TEST POINTS	
TP1731	M-3
TP1733	Q-1
TP1734	Q-1

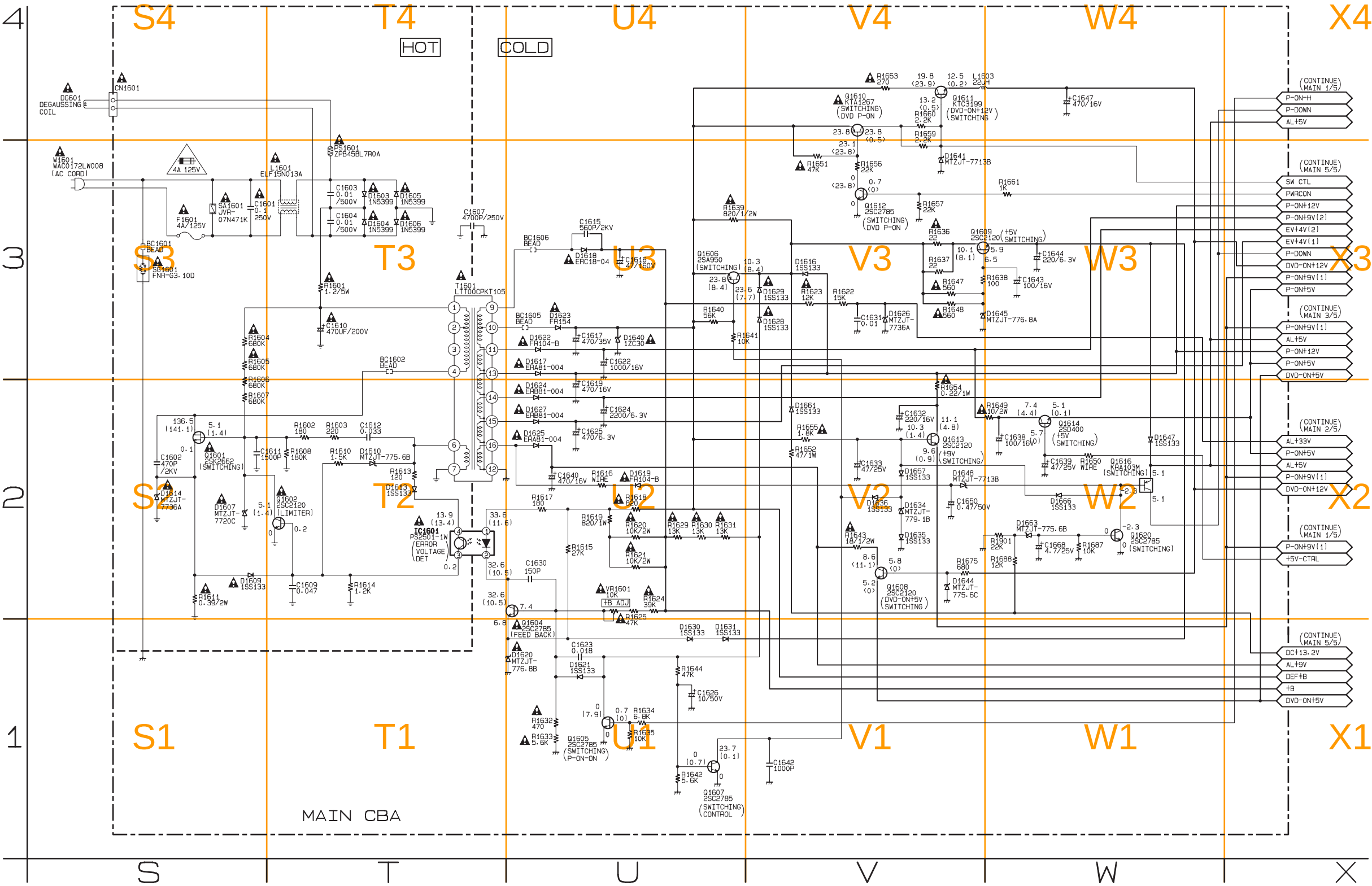
Main 4/5 Schematic Diagram < TV Section >

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

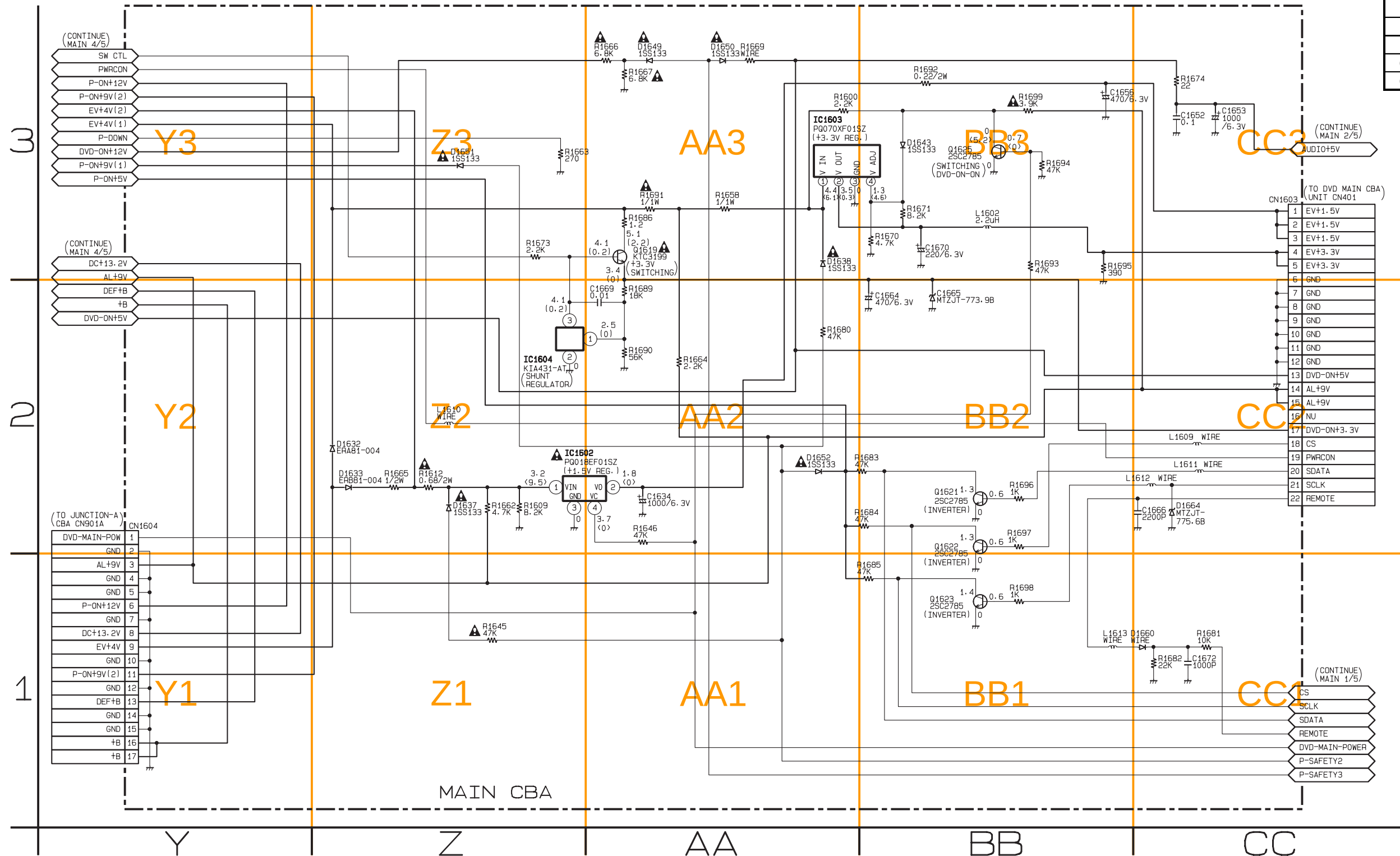


MAIN 4/5

Ref No.	Position
IC	
IC1601	T-2
TRANSISTORS	
Q1601	S-2
Q1602	T-2
Q1604	U-2
Q1605	U-1
Q1606	U-3
Q1607	U-1
Q1608	V-2
Q1609	V-3
Q1610	V-4
Q1611	V-4
Q1612	V-3
Q1613	V-2
Q1614	W-2
Q1616	W-2
CONNECTOR	
CN1601	S-4
VARIABLE RESISTOR	
VR1601	U-2

Main 5/5 Schematic Diagram <TV Section >

MAIN 5/5	
Ref No.	Position
ICS	
IC1602	Z-2
IC1603	AA-3
IC1604	Z-2
TRANSISTORS	
Q1619	AA-3
Q1621	BB-2
Q1622	BB-2
Q1623	BB-1
Q1625	BB-3
CONNECTORS	
CN1602	Y-2
CN1603	CC-3



H.V. / DC Power Supply 1/2 & CRT Schematic Diagram < TV Section >

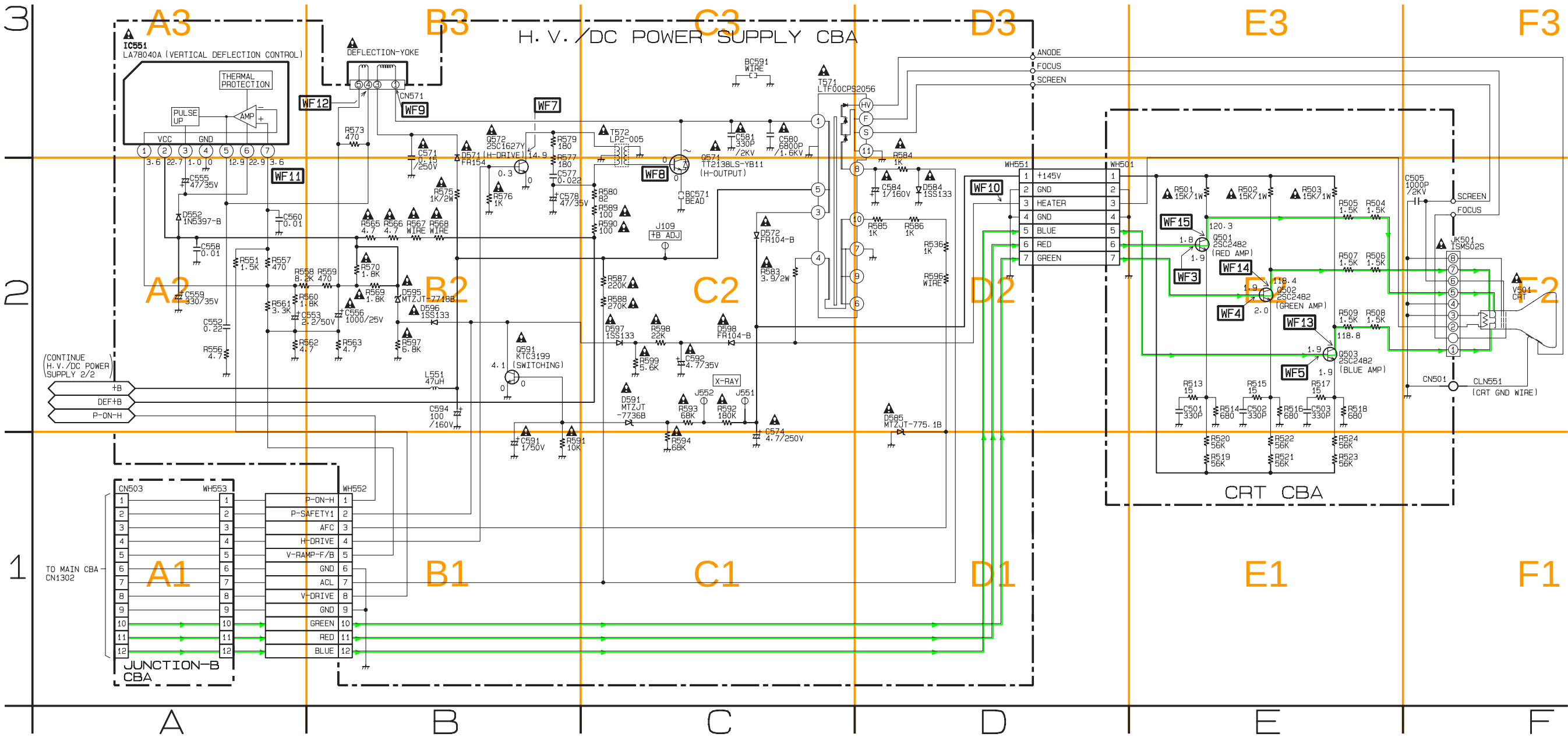
H.V./DC POWER SUPPLY 1/2

Ref No.	Position
IC	
IC551	A-3
TRANSISTORS	
Q571	C-2
Q572	B-2
Q591	B-2
CONNECTORS	
CN571	B-3
WH551	D-2
WH552	B-1
TEST POINTS	
J109	C-2
J551	C-2
J552	C-2

CRT

Ref No.	Position
TRANSISTORS	
Q501	E-2
Q502	E-2
Q503	E-2
CONNECTORS	
CN501	F-2
WH501	D-2

VIDEO (TV/LINE) + DVD VIDEO SIGNAL



H.V. / DC Power Supply 2/2 Schematic Diagram < TV Section >

CAUTION !

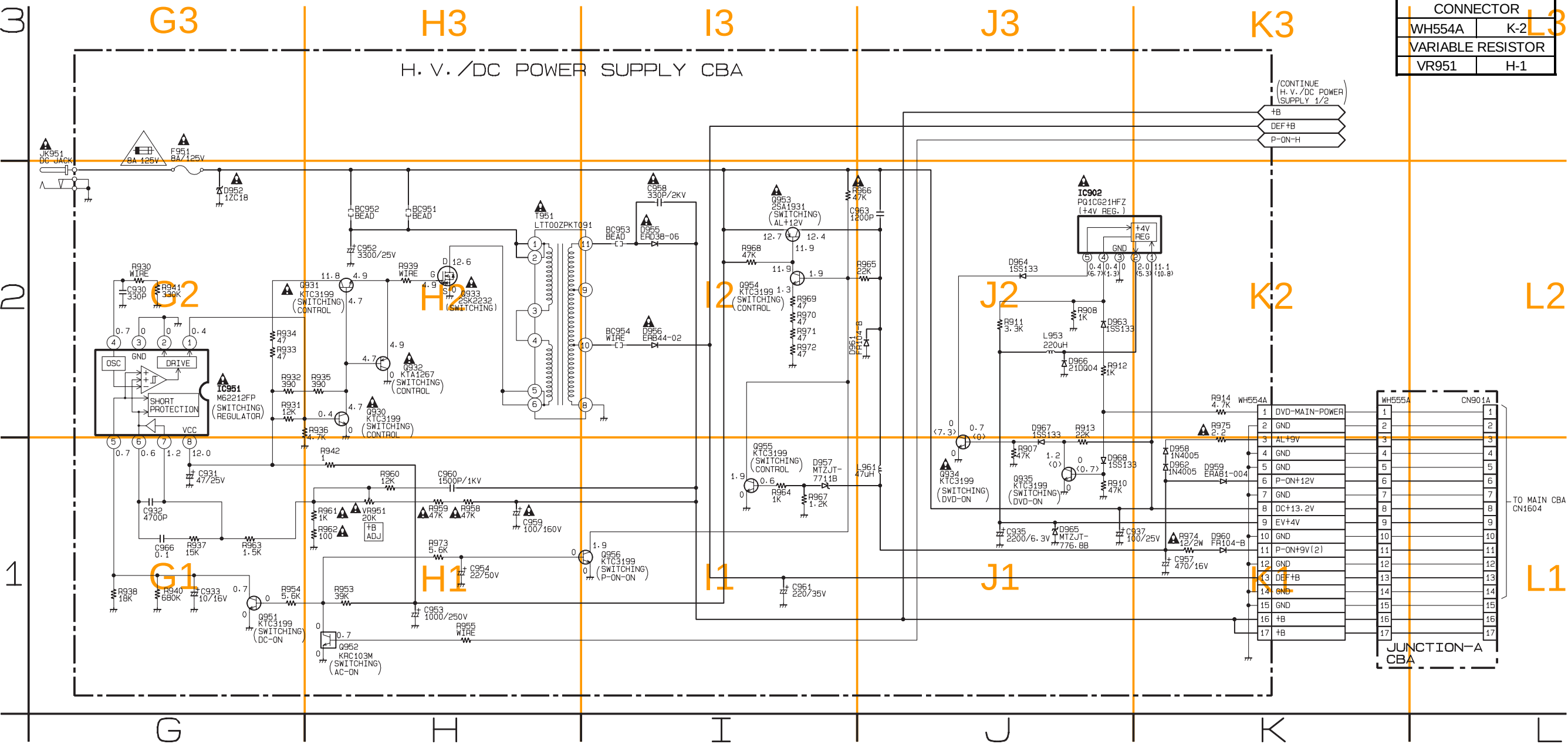
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F951) is blown, check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 8A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 8A, 125V.

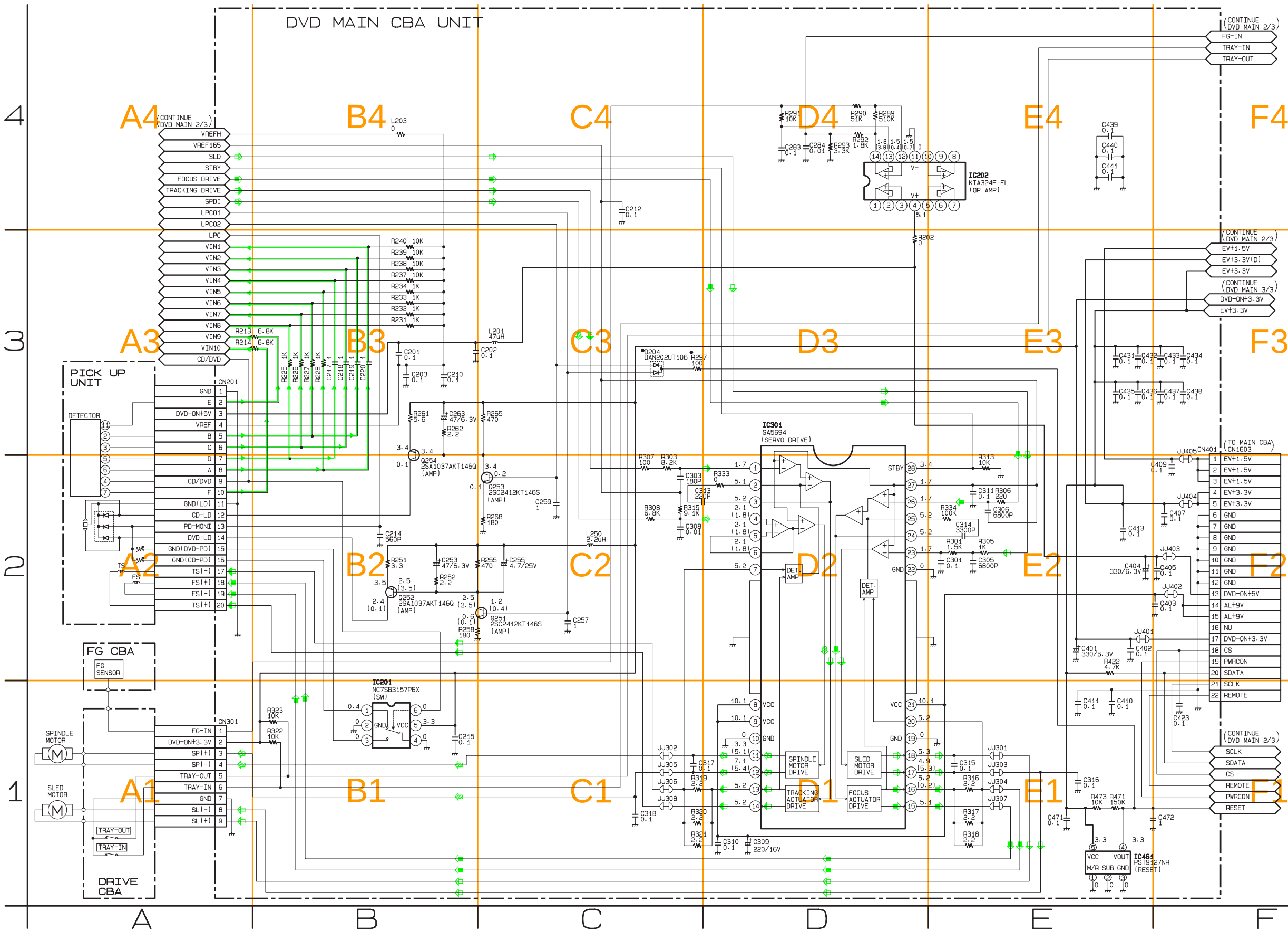
H.V./DC POWER SUPPLY 2/2

Ref No.	Position
ICS	
IC902	J-2
IC951	G-2
TRANSISTORS	
Q930	H-2
Q931	H-2
Q932	H-2
Q933	H-2
Q934	D-1
Q935	D-1
Q951	G-1
Q952	H-1
Q953	I-2
Q954	I-2
Q955	I-1
Q956	I-1
CONNECTOR	
WH554A	K-2
VARIABLE RESISTOR	
VR951	H-1



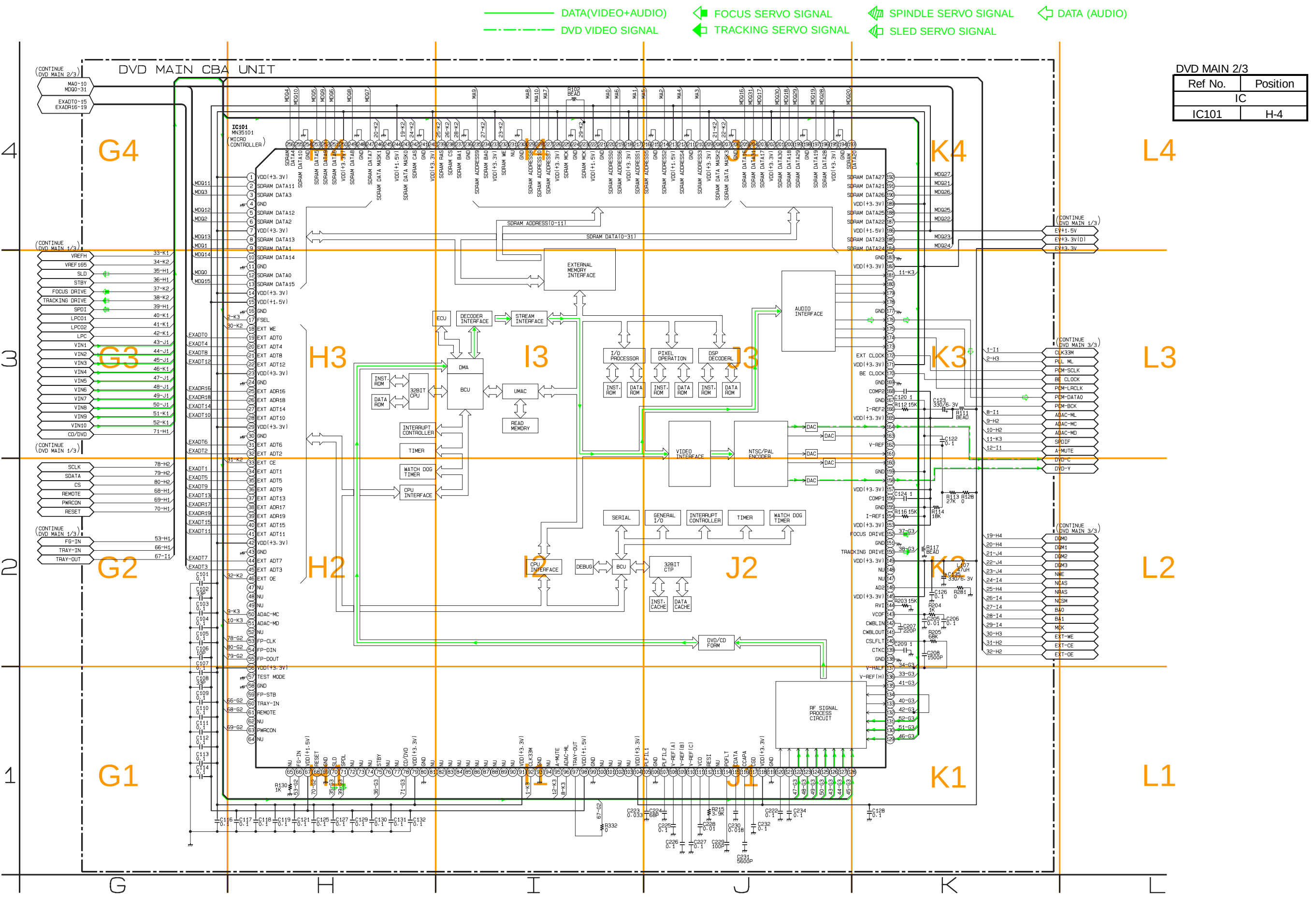
DVD Main 1/3 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO) FOCUS SERVO SIGNAL SPINDLE SERVO SIGNAL
TRACKING SERVO SIGNAL SLED SERVO SIGNAL



DVD MAIN 1/3	
Ref No.	Position
ICS	
IC201	B-1
IC202	E-4
IC301	D-3
IC461	E-1
TRANSISTORS	
Q251	C-2
Q252	B-2
Q253	C-2
Q254	B-2
CONNECTORS	
CN201	A-3
CN301	A-1
CN401	F-2

DVD Main 2/3 Schematic Diagram < DVD Section >



IC101 VOLTAGE CHART

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	3.3	3.3	33	2.2	2.9	65	0.1	0.1	97	3.4	3.4	129	2.0	2.0	161	-----	-----	193	~	~	225	1.9	1.9
2	~	~	34	~	~	66	1.2	2.5	98	1.6	1.6	130	2.2	2.2	162	1.4	1.4	194	0	0	226	3.3	3.3
3	~	~	35	~	~	67	1.6	1.6	99	0	0	131	2.3	2.3	163	-----	-----	195	3.3	3.3	227	~	~
4	0	0	36	~	~	68	3.4	3.4	100	-----	-----	132	0.4	0.1	164	0.9	0.9	196	~	~	228	~	~
5	~	~	37	~	~	69	0	0	101	-----	-----	133	1.2	0.4	165	3.3	3.3	197	~	~	229	~	~
6	~	~	38	0.3	0.5	70	1.7	1.7	102	-----	-----	134	0.4	0.1	166	1.5	1.5	198	0	0	230	0	0
7	3.3	3.3	39	0.1	0.1	71	2.4	1.7	103	-----	-----	135	0.2	0.2	167	0	0	199	~	~	231	-----	-----
8	~	~	40	~	~	72	-----	-----	104	3.3	3.3	136	2.3	2.3	168	2.1	2.1	200	~	~	232	3.3	3.3
9	~	~	41	~	~	73	-----	-----	105	0.9	0.9	137	1.7	1.7	169	0	0	201	~	~	233	3.3	3.3
10	~	~	42	3.3	3.3	74	-----	-----	106	0	0	138	0	0	170	0.8	0.8	202	3.3	3.3	234	1.6	1.6
11	0	0	43	0	0	75	3.4	3.4	107	0.8	0.8	139	1.7	1.7	171	3.3	3.3	203	~	~	235	~	~
12	~	~	44	~	~	76	-----	-----	108	1.6	1.6	140	1.7	1.7	172	1.6	1.6	204	~	~	236	0	0
13	~	~	45	~	~	77	-----	-----	109	2.1	2.1	141	1.7	1.7	173	-----	-----	205	~	~	237	1.7	1.7
14	3.3	3.3	46	2.0	2.6	78	0.1	0.1	110	2.6	2.6	142	1.7	1.7	174	1.8	1.8	206	0	0	238	3.0	3.0
15	1.5	1.5	47	-----	-----	79	3.3	3.3	111	2.0	2.0	143	0.5	0.5	175	1.7	1.7	207	2.4	3.5	239	3.3	3.3
16	0	0	48	-----	-----	80	0	0	112	0.7	0.9	144	1.6	1.6	176	1.4	0.1	208	2.4	2.1	240	3.3	3.3
17	3.4	3.4	49	-----	-----	81	-----	-----	113	-----	-----	145	3.3	3.3	177	0	0	209	3.3	3.3	241	0	0
18	3.4	3.4	50	3.4	3.4	82	-----	-----	114	1.8	1.8	146	1.8	1.8	178	-----	-----	210	~	~	242	3.2	3.2
19	~	~	51	3.4	3.4	83	-----	-----	115	1.4	1.4	147	-----	-----	179	-----	-----	211	0	0	243	2.4	2.1
20	~	~	52	-----	-----	84	-----	-----	116	0.3	0.3	148	-----	-----	180	-----	-----	212	~	~	244	1.5	1.5
21	~	~	53	3.4	3.4	85	-----	-----	117	1.6	1.6	149	3.3	3.3	181	1.7	1.7	213	1.5	1.5	245	0	0
22	~	~	54	3.4	3.4	86	-----	-----	118	3.3	3.3	150	1.7	1.7	182	3.3	3.3	214	~	~	246	2.4	2.1
23	3.3	3.3	55	3.3	3.3	87	-----	-----	119	0	0	151	0	0	183	0	0	215	0	0	247	~	~
24	0	0	56	3.3	3.3	88	-----	-----	120	1.9	1.9	152	1.7	1.7	184	~	~	216	~	~	248	0	0
25	0.4	0.4	57	0	0	89	-----	-----	121	1.9	1.9	153	3.3	3.3	185	~	~	217	~	~	249	~	~
26	0.9	0.6	58	0	0	90	-----	-----	122	2.4	2.4	154	1.4	1.4	186	1.5	1.5	218	3.3	3.3	250	3.3	3.3
27	~	~	59	-----	-----	91	3.3	3.3	123	2.4	2.4	155	0	0	187	~	~	219	~	~	251	~	~
28	~	~	60	3.4	3.4	92	1.7	1.5	124	2.4	2.4	156	2.2	2.2	188	~	~	220	~	~	252	~	~
29	3.3	3.3	61	3.1	3.1	93	0	0	125	2.4	2.4	157	3.3	3.3	189	3.3	3.3	221	0	0	253	~	~
30	0	0	62	-----	-----	94	-----	-----	126	2.0	2.0	158	0.7	0.7	190	~	~	222	1.5	1.5	254	0	0
31	~	~	63	3.4	3.4	95	3.4	0.1	127	2.0	2.0	159	0	0	191	~	~	223	1.9	1.9	255	~	~
32	~	~	64	-----	-----	96	3.4	3.4	128	2.0	2.0	160	-----	-----	192	~	~	224	0	0	256	~	~

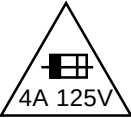
--- DVD VIDEO SIGNAL ↩ DATA (AUDIO) ↩ DVD AUDIO SIGNAL



Main CBA Top View < TV Section >

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

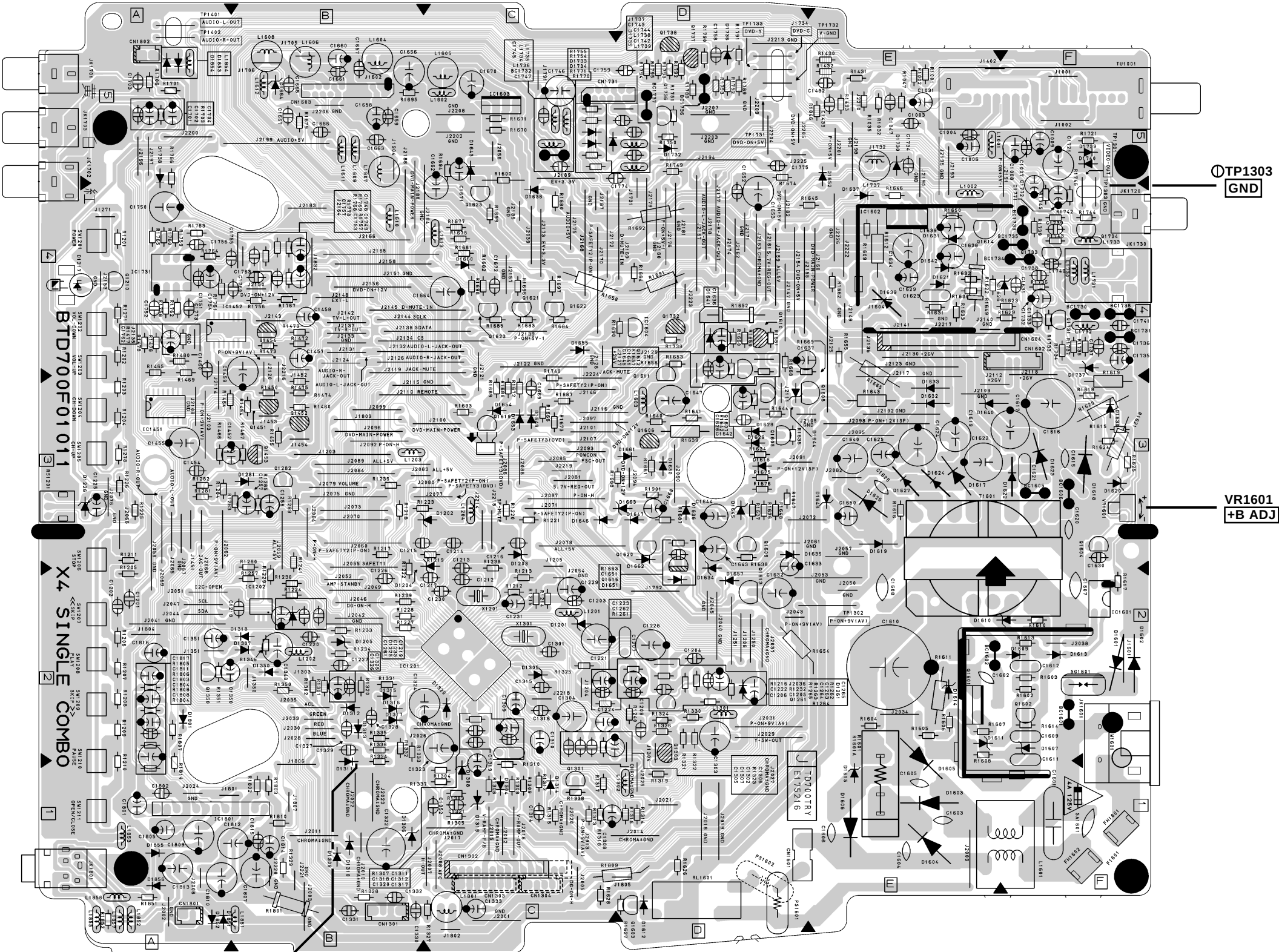


CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED.
ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



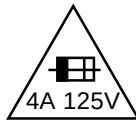
D1311 Cathode
(C-Trap Adjustment)

MAIN CBA

Ref No.	Position	Ref No.	Position
ICS		TRANSISTORS	
IC1201	B-2	Q1621	C-4
IC1202	B-2	Q1622	C-4
IC1451	A-3	Q1623	C-4
IC1452	A-4	Q1625	C-4
IC1601	F-2	Q1731	F-4
IC1602	E-4	Q1732	D-4
IC1603	C-5	Q1733	F-4
IC1604	D-4	Q1734	F-4
IC1731	A-4	Q1736	D-5
IC1801	A-1	Q1737	D-5
TRANSISTORS		Q1738	D-5
CONNECTORS			
Q1261	D-2	CN1302	C-1
Q1282	B-3	CN1601	D-1
Q1301	C-1	CN1602	F-4
Q1350	A-2	CN1603	B-5
Q1453	B-3	CN1731	C-5
Q1454	B-4	CN1801	A-1
Q1601	E-2	CN1802	A-5
Q1602	F-2	TEST POINTS	
Q1604	F-3	TP1301	F-5
Q1605	D-3	TP1302	E-2
Q1606	D-3	TP1303	F-4
Q1607	D-3	TP1401	A-5
Q1608	E-3	TP1402	A-5
Q1609	D-3	TP1731	D-5
Q1610	D-4	TP1732	E-5
Q1611	D-3	TP1733	D-5
Q1612	D-4	TP1734	D-5
Q1613	D-2	VARIABLE RESISTOR	
Q1614	E-4	VR1601	F-3
Q1616	D-2		
Q1619	C-3		

Main CBA Bottom View < TV Section >

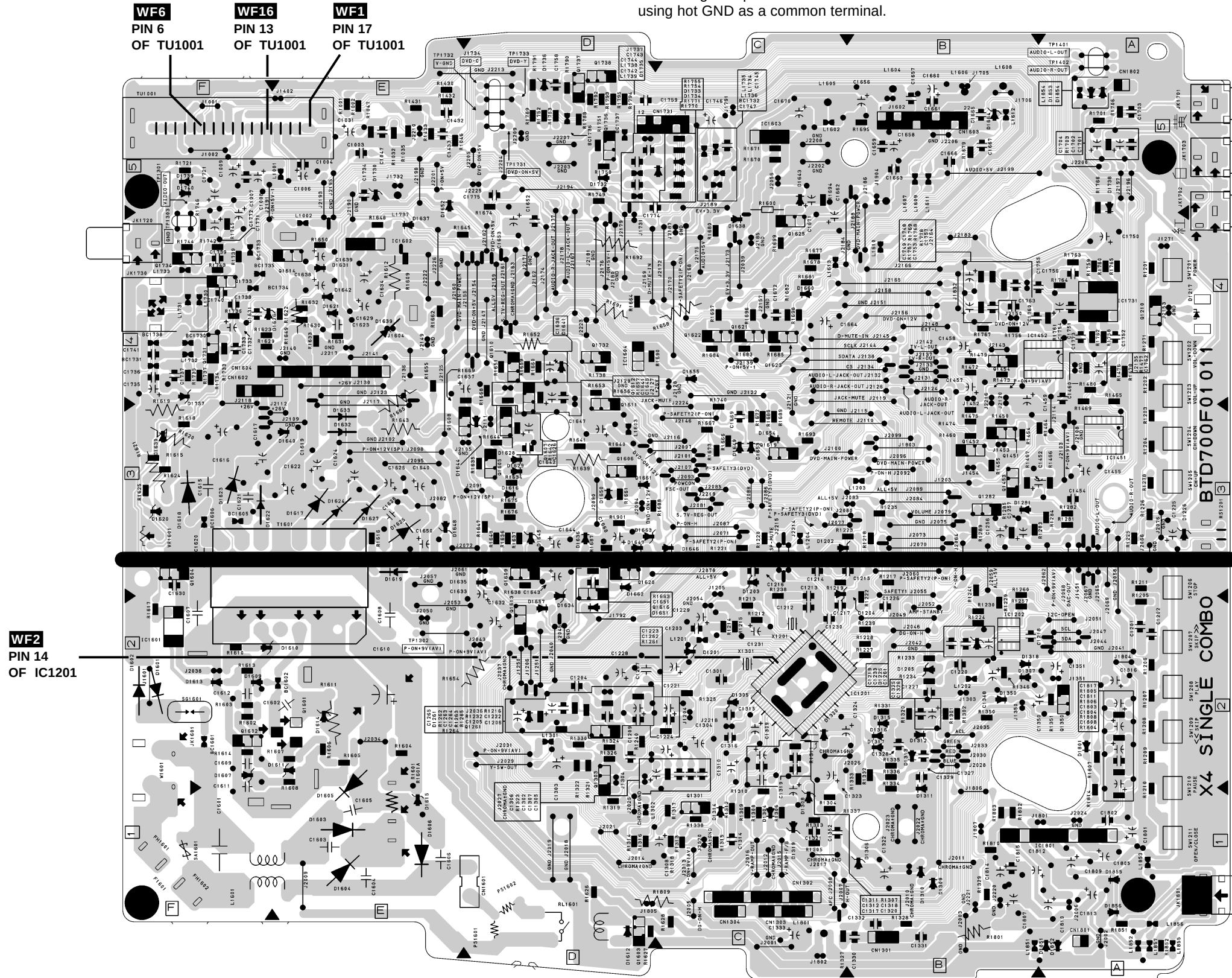
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



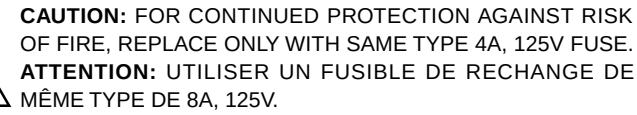
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



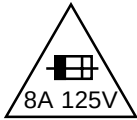
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F951) is blown, check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



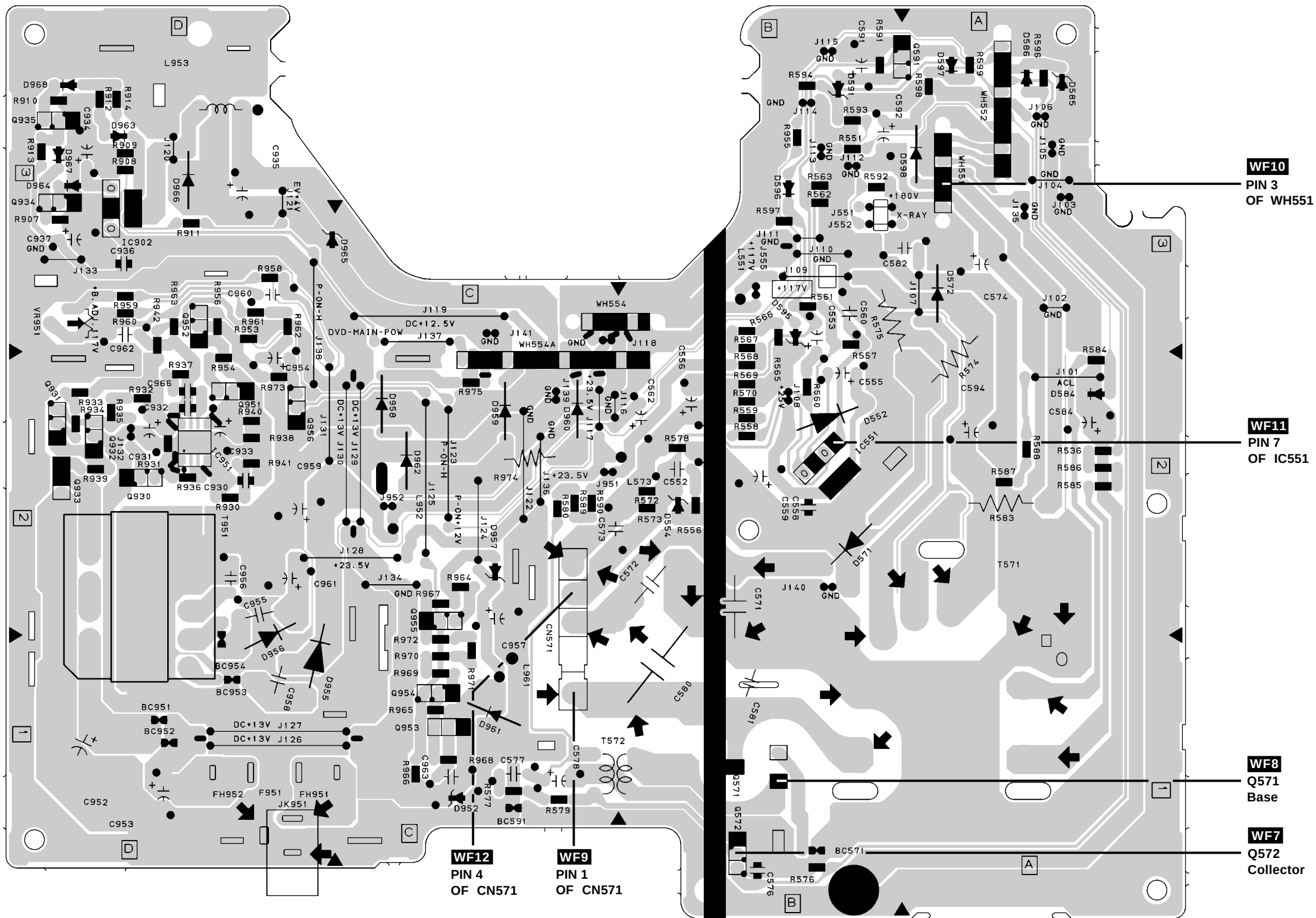
Ref No.	Position
ICS	
IC551	B-2
IC902	D-3
IC951	D-2
TRANSISTORS	
Q571	B-1
Q572	B-1
Q591	A-3
Q930	D-2
Q931	D-2
Q932	D-2
Q933	D-2
Q934	D-3
Q935	D-3
Q951	D-2
Q952	D-3
Q953	C-1
Q954	C-1
Q955	C-2
Q956	D-2
CONNECTORS	
CN571	C-1
WH551	A-3
WH552	A-3
WH554A	C-3
TEST POINTS	
J109	B-3
J551	B-3
J552	B-3
VARIABLE RESISTOR	
VR951	D-3

H.V. /DC POWER SUPPLY CBA Bottom View < TV Section >

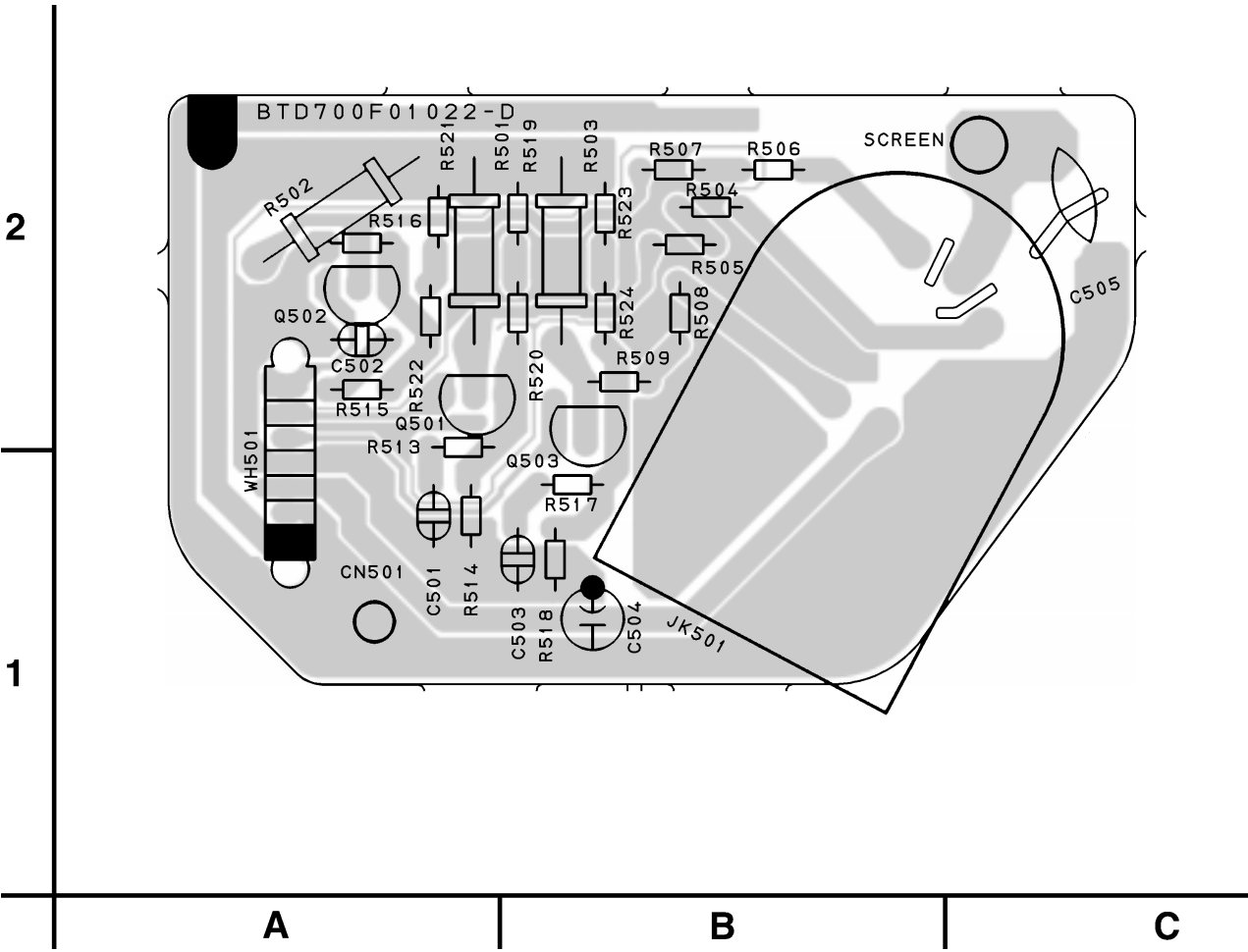
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F951) is blown, check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 8A, 125V.

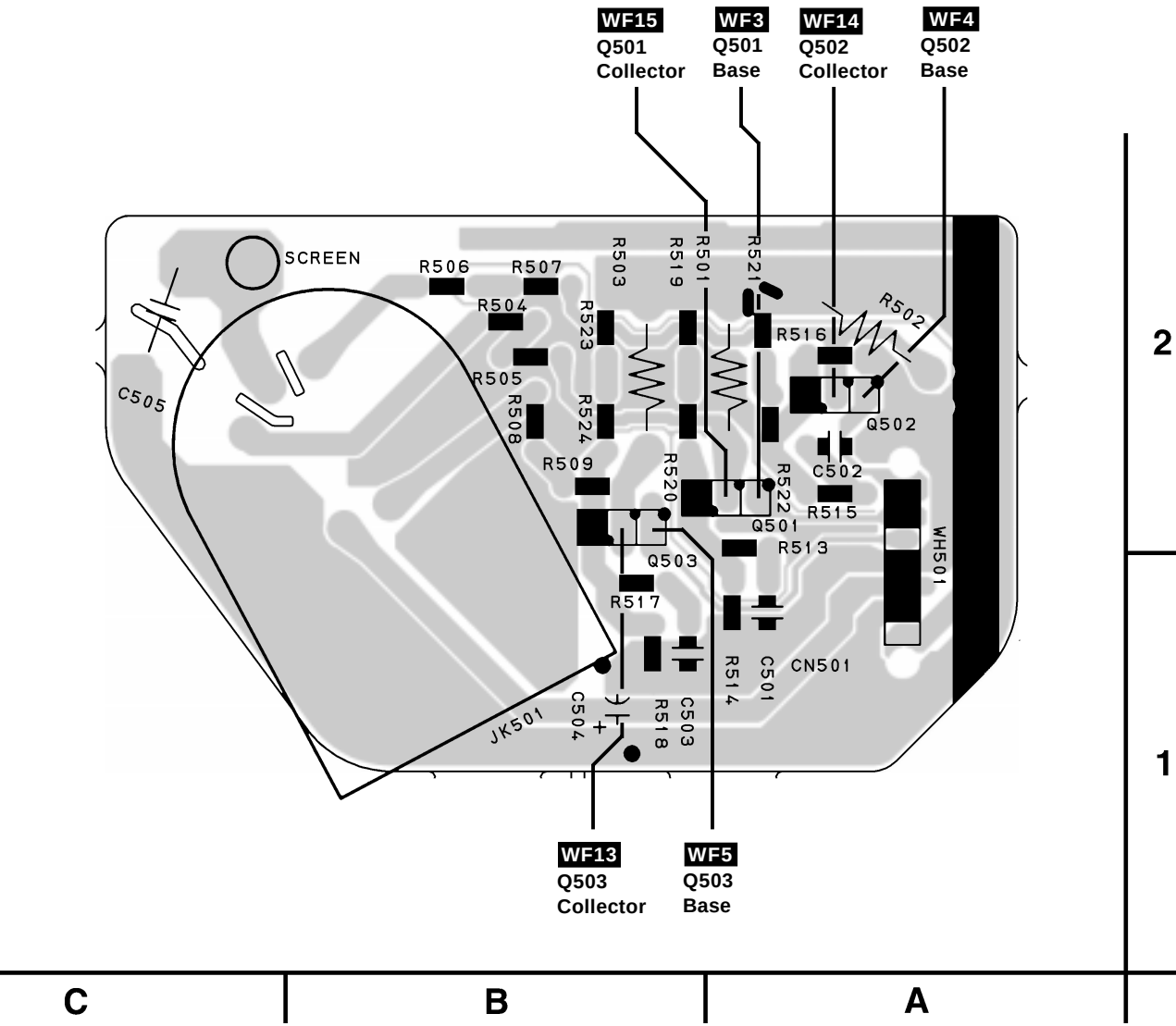


CRT CBA Top View <TV Section >

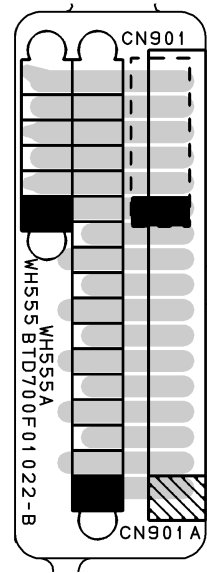


CRT CBA	
Ref No.	Position
TRANSISTORS	
Q501	A-1
Q502	A-1
Q503	A-1
CONNECTORS	
CN501	A-1
WH501	A-1

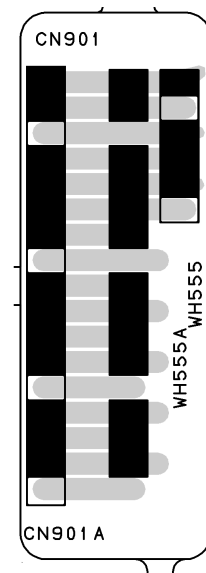
CRT CBA Bottom View <TV Section >



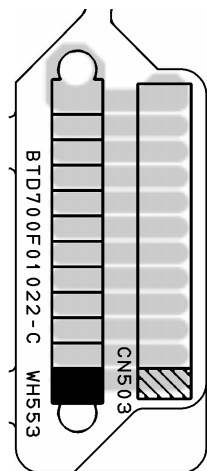
Junction-A CBA
Top View < TV Section >



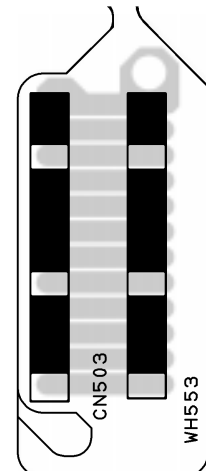
Junction-A CBA
Bottom View < TV Section >



Junction-B CBA
Top View < TV Section >



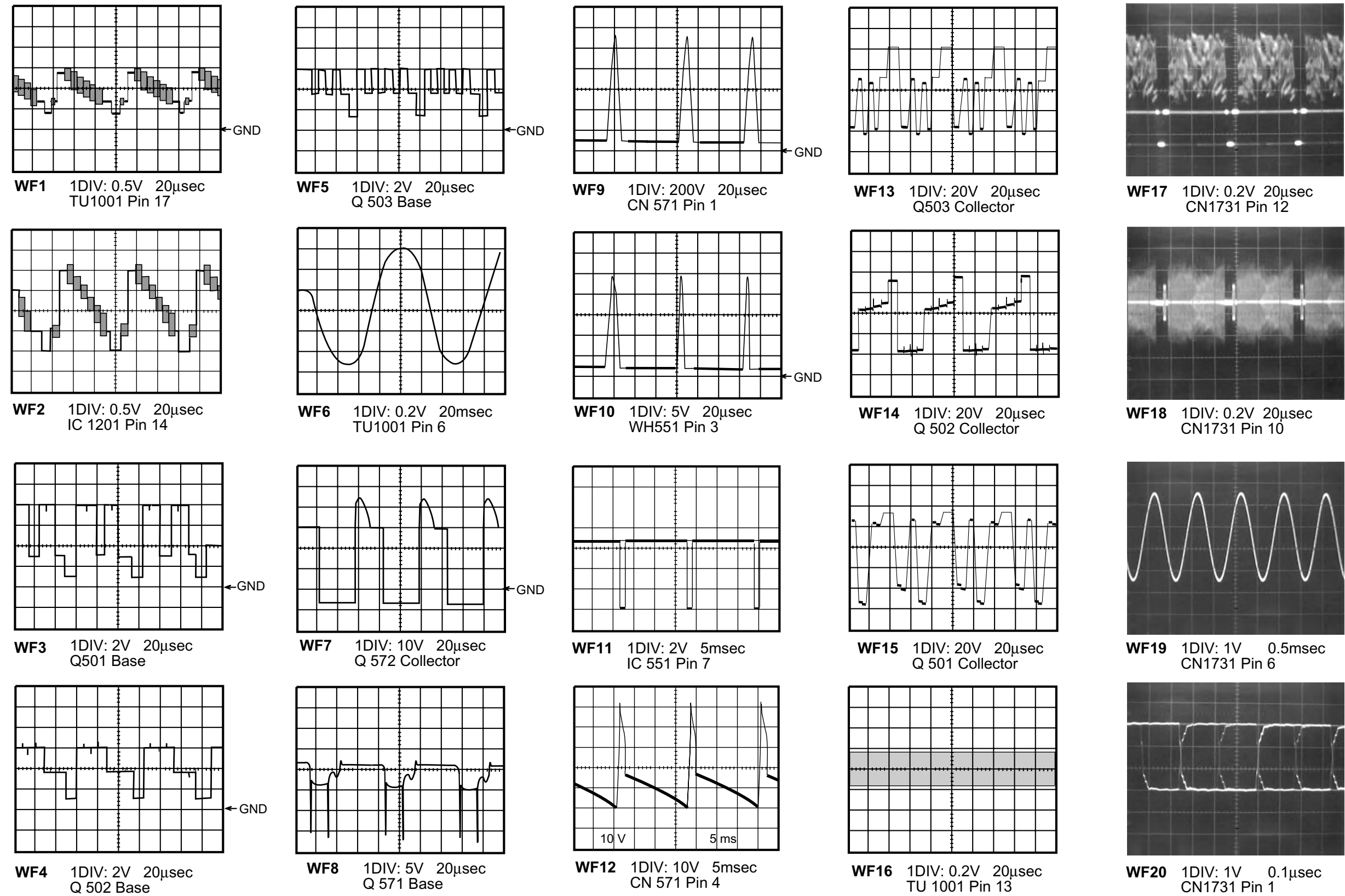
Junction-B CBA
Bottom View < TV Section >



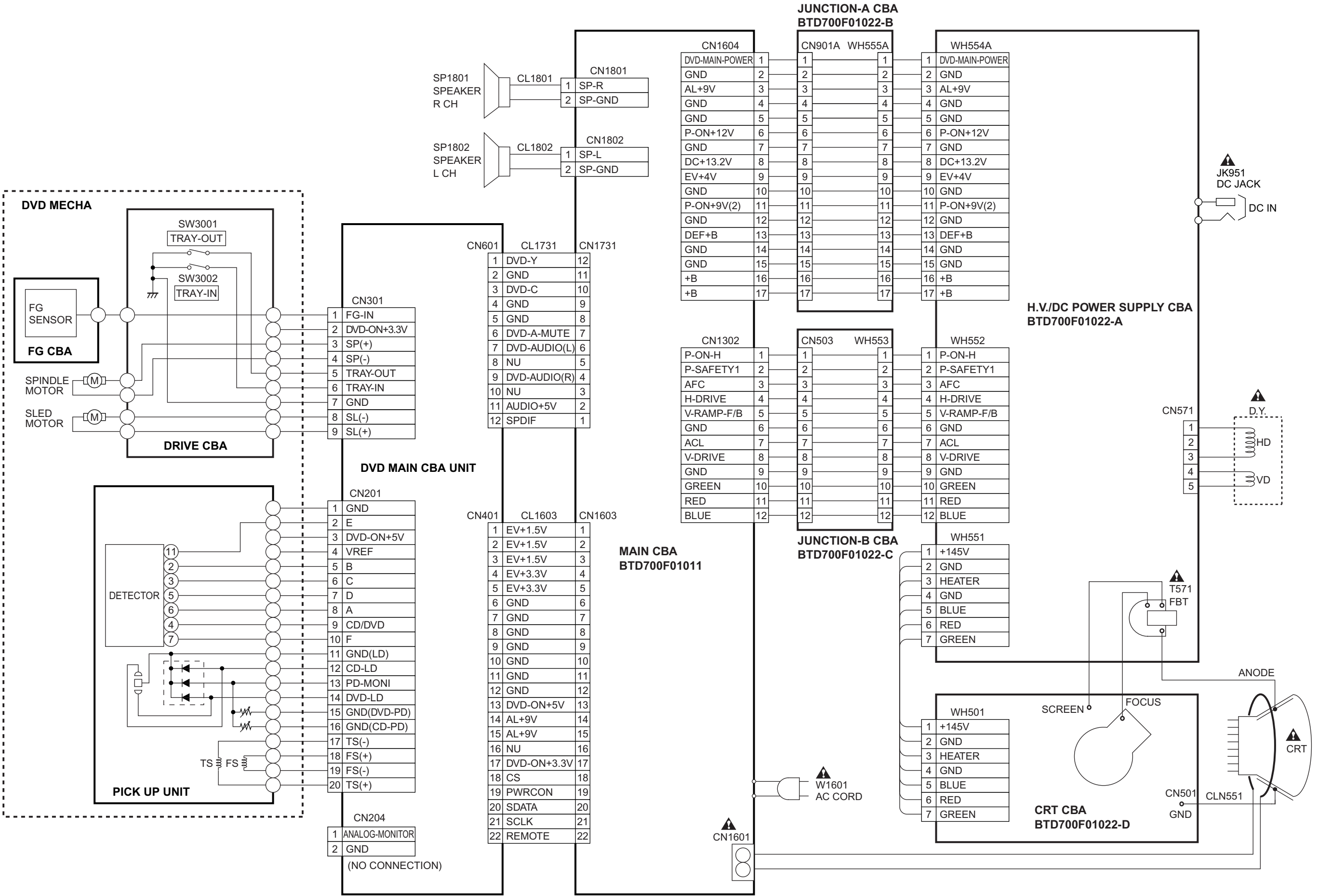
WAVEFORMS

WF1 ~ WF20 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: NTSC Color Bar Signal (with 1kHz Audio Signal) --- WF1~WF16
DVD Video(Power on (Stop) MODE) --- WF17, WF18
CD(1KHz Play) --- WF19, WF20
INITIAL POSITION: Unplug unit from AC outlet for at least 5 minutes.
reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)

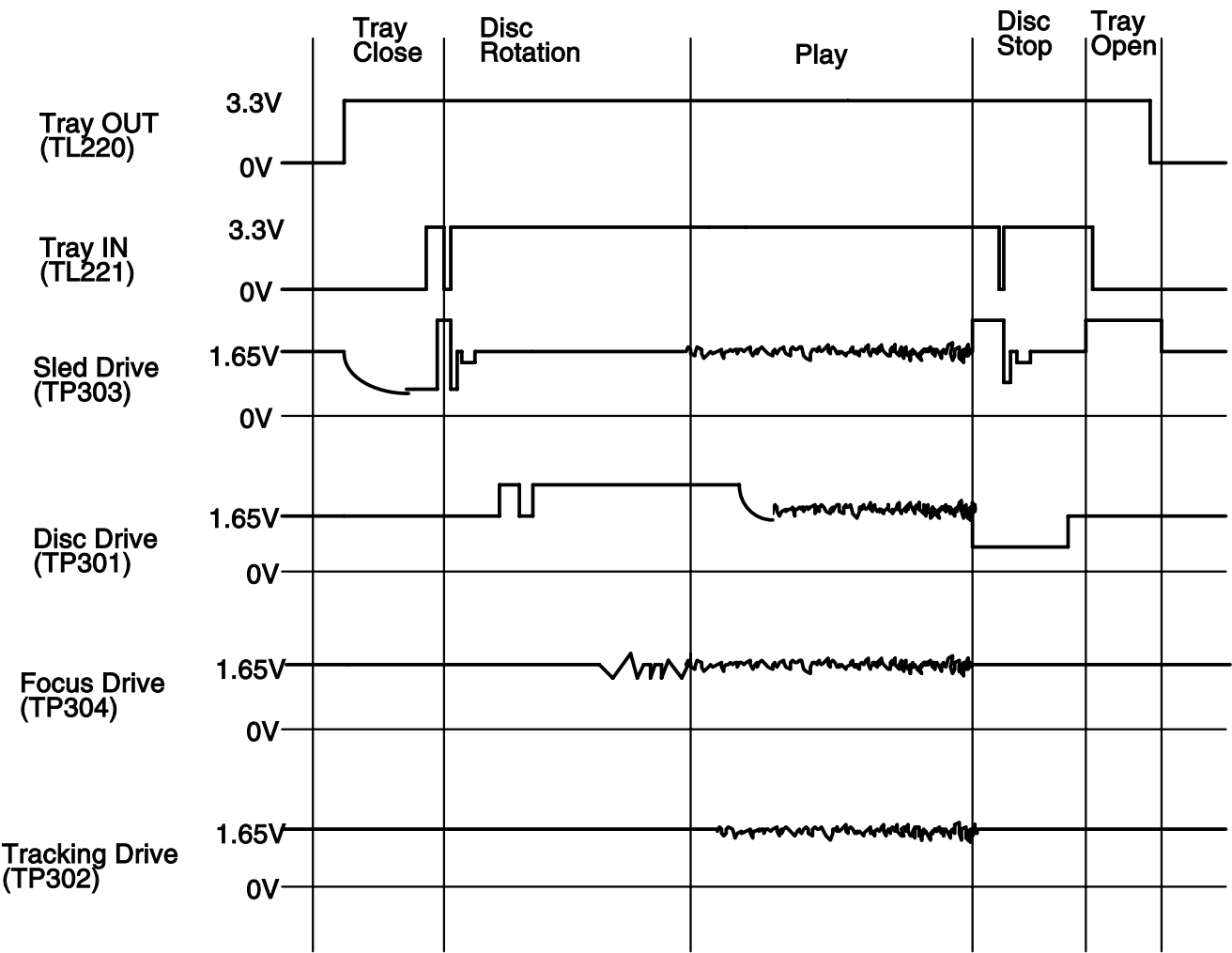


WIRING DIAGRAM



SYSTEM CONTROL TIMING CHARTS

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTIONS

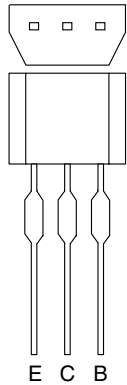
IC1201 (TV Micro Computer)

Pin No.	Signal Name	Function
1	GND	GND
2	XIN	Input for Oscillator
3	XOUT	Output for Oscillator
4	TEST 1	TEST 1
5	GND	GND
6	VCC	AL+5V
7	TEST 0	TEST 0
8	FILT	FILT
9	HLF	Filter for CCD
10	VHOLD	VHOLD
11	CVIN	Input for Video Signal
12	RESET	RESET
13	N.U.	Not Used
14	Y-SW OUT	Composite Signal Output
15	GND	GND
16	3.58 X'TAL	3.58MHz Crystal
17	C-APC	CHROMINANCE APC
18	N.U.	Not Used
19	N.U.	Not Used
20	N.U.	Not Used
21	N.U.	Not Used
22	VCC	VCC
23	N.U.	(GND)
24	CVBS IN2	Composite Signal Input 2 (LINE)
25	N.U.	Not Used
26	CVBS IN1	Composite Signal Input 1 (TUNER)
27	N.U.	Not Used
28	5.7V REG OUT	5.7V Output
29	C IN	DVD Chrominance Signal
30	Y IN	DVD Luminance Signal
31	V REG VCC	DC 8.7V Input
32	FSC OUT	Clock Output 3.58MHz
33	N.U.	Not Used
34	N.U.	Not Used

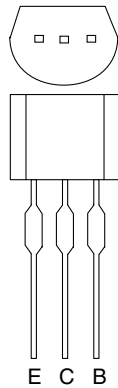
Pin No.	Signal Name	Function
35	N.U.	Not Used
36	N.U.	Not Used
37	V RAMP F/B	V Ramp Feed Back
38	V RAMP OUT	Vertical Output
39	V RAMP CAP	V Ramp OSC Capacitor
40	N.U.	Not Used
41	N.U.	Not Used
42	H VCO F/B	H Vco Feed Back
43	AFC FILT	Horizontal AFC Filter
44	GND	GND
45	FBP IN	Flyback Pulse Input
46	H-OUT	H Pulse Output
47	VCC	Vcc
48	VCC	Vcc
49	VCC	Vcc
50	R OUT	Red Output
51	G OUT	Green Output
52	B OUT	Blue Output
53	ACL	IB-Input
54	N.U.	Not Used
55	JACK-MUTE	Muting Signal to Audio Output Terminal
56	SDA	I2C-BUS Controller Interface (Data)
57	I2C-OPEN	White Balance Adjustment Judgement
58	SCL	I2C-BUS Controller Interface (Clock)
59	CS	DVD Interface Chip Select
60	SDATA	DVD Interface Data
61	SCLK	DVD Interface Clock
62	VOLUME	Volume Control
63	AMP-STANDBY	Speaker Amp. ON/OFF Output Signal
64	REMOTE OUT	DVD Control Key Code Output
65	DVD -MUTE	DVD Mute Signal Input
66	KEY-IN 0	Key Input 0
67	KEY-IN 1	Key Input 1

Pin No.	Signal Name	Function
68	AGC-IN	AGC Voltage Input
69	AFT	AFT Voltage Input
70	REMOTE	Input for Remote Control
71	N.U.	Not Used
72	SPOT-KILL	Spot Countermeasure
73	P-SAFETY 1	Power Supply Protection
74	P-SAFETY 2	Power Supply Protection
75	DVD-H/ P-SAFETY 3	DVD at High/Power Supply Protection
76	EXT-L	Switching External Input
77	DVD-MAIN- POWER	Power On Signal to High for DVD
78	P-ON-H	Output for P-ON-H
79	N.U.	Not Used
80	ACL-CONT	ACL Control Signal

LEAD IDENTIFICATIONS

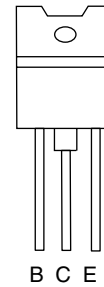


2SC3400
KTA1266(GR)
BN1F4M-T
KTC3199(BR)
2SC2785(J,H,F)
KRC103M
BA1F4M-T
KRA103M



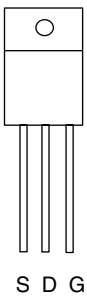
2SA950(Y,O)
KTA1271(Y)
2SA1175(F)
KTA1267(GR)
2SA1015-GR(TPE2)
2SC2482 TPE6
2SC3468(E,D)-AE
2SC2120-(O,Y)(TPE2)
2SC1815-GR(TPE2)
KTC3198(GR)
2SC1627Y-TPE2

TT2138LS-YB11
T2SC5884000RF



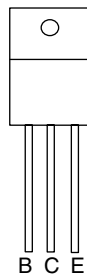
E: Emitter
C: Collector
B: Base

2SK2232
2SK2662
FS30KMJ-06

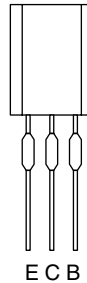


S: Source
D: Drain
G: Gate

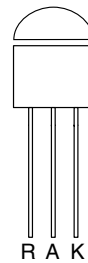
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2SA1469(R)



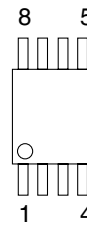
2SD400(F)



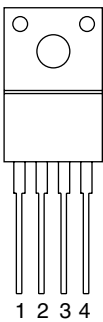
KIA431-AT



NJM4558D
M62212FP

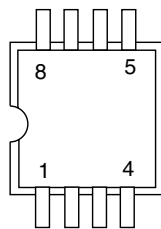


PQ070XF01SZ
PQ018EF01SZ

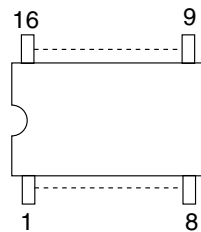


1: Vin
2: Vo
3: GND
4: Vc

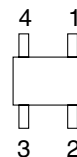
BR24C02F-W
AT24C02N-10SC
M24C02-MN6
BR24C02F
CAT24WC02JI
M24C02-WMN6



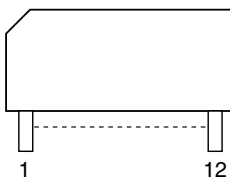
TC4053BF(N)
CD4053BCSJX



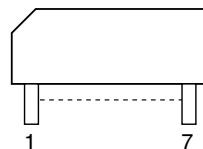
PS2501-1W
PS2501-1L



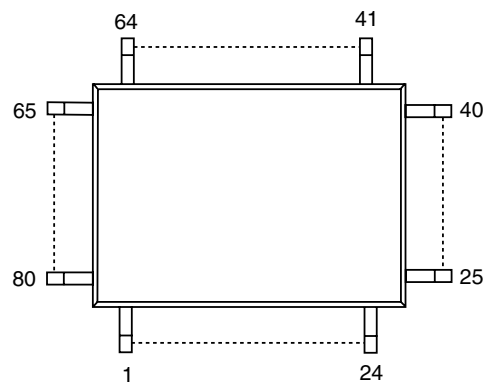
AN17805A



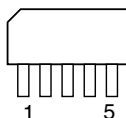
AN5522
LA78040A



M61271M8-053FP-61



PQ1CG21HFZ



Note:

A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS AND PARTS LIST SECTION

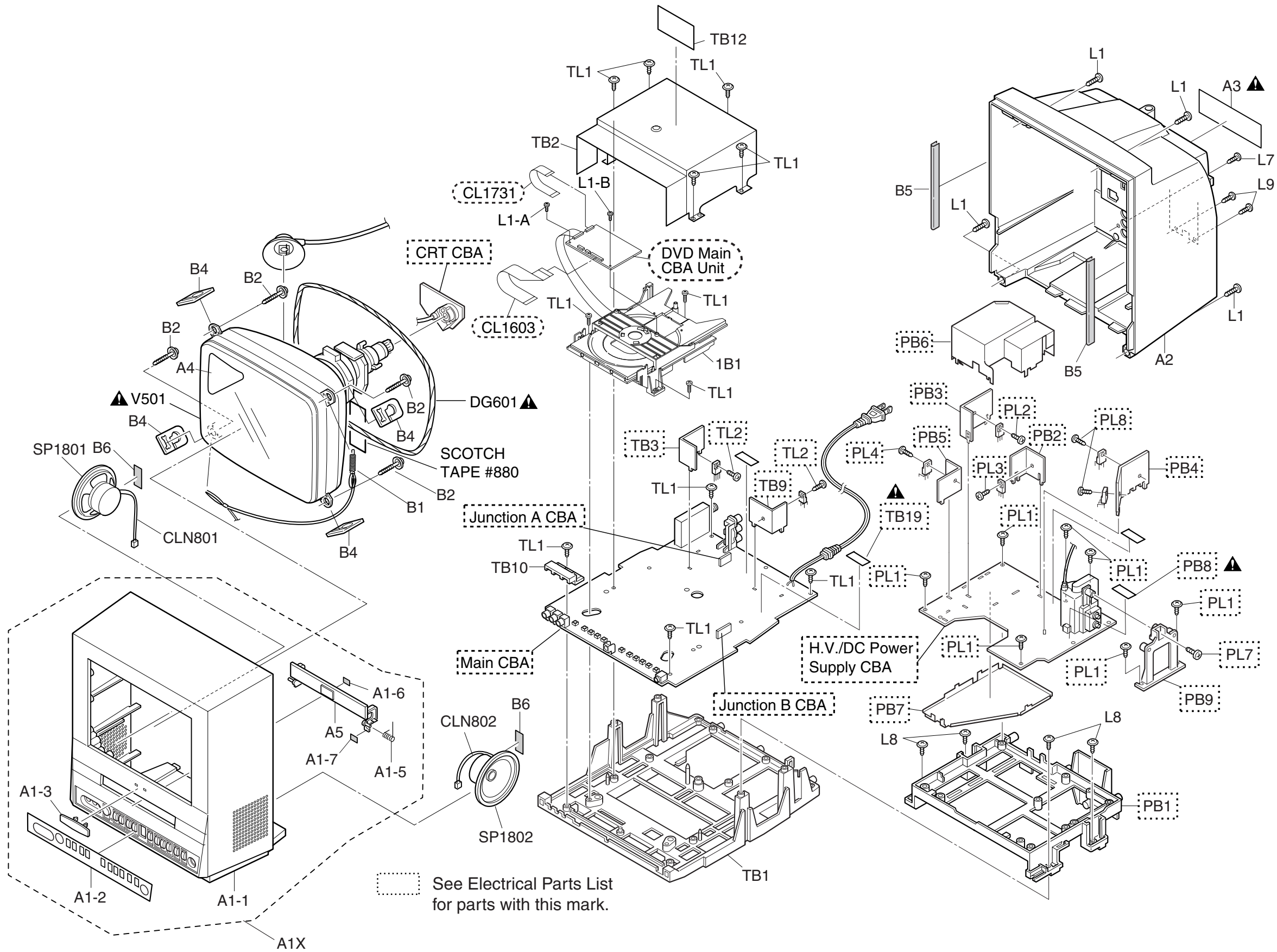
9" COLOR TV/DVD 6509DD/SSC509D

Sec. 2: Exploded views and Parts List Section
● Exploded views
● Parts List

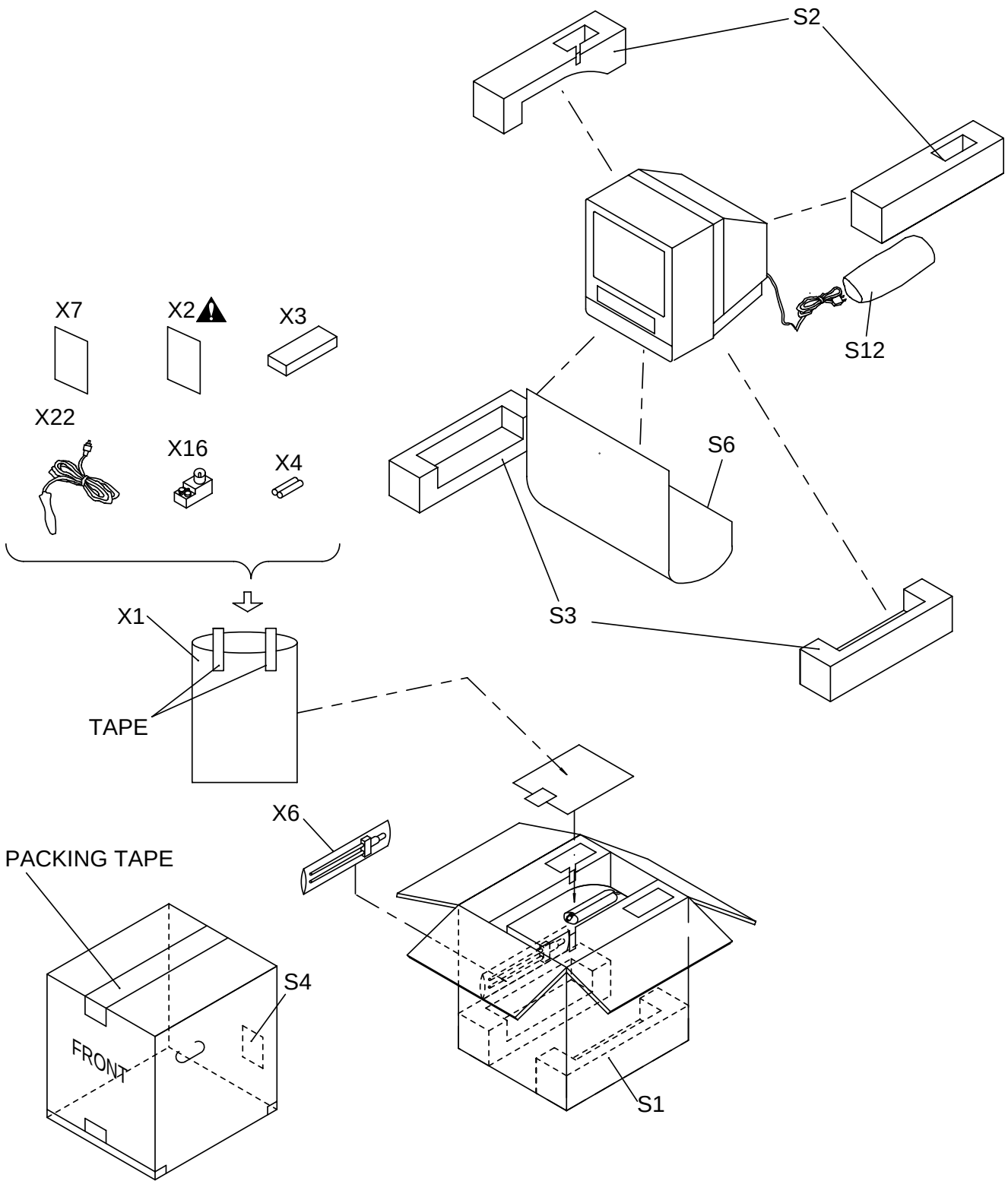
TABLE OF CONTENTS

Cabinet Exploded Views	2-1-1
Packing Exploded Views	2-1-3
Mechanical Parts List	2-2-1
Electrical Parts List	2-3-1

EXPLODED VIEWS



Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE:

Parts that are not assigned part numbers (-----) are not available.

Comparison Chart of Models and Marks

Model	Mark
6509DD	A
SSC509D	B

Ref. No.	Mark	Description	Part No.
A1X		FRONT CABINET ASSEMBLY TD001UB	0EM101295
A1-1		FRONT CABINET TD001UB	0EM000732
A1-2		CONTROL PLATE TD001UB	0EM201690
A1-3		BRAND BADGE B4816US:SYLVANIA	0EM403953
A1-5		TRAY SPRING TD250UA	0EM406504
A1-6		CLOTH(B) L5201U0:15X10X1.0T	0EM400076
A1-7		CLOTH(4X7X0.3T) TD250UA	0EM407578
A2		REAR CABINET TD001UB	0EM000733
A3 	A	RATING LABEL TD001UB	-----
A3 	B	RATING LABEL TD002UC	-----
A4		POP LABEL TD001UB	-----
A5		TRAY PANEL TD001UB	0EM301767
1B1		DVD MECHA 0838 VCDVM040	N79F0GVM
B1		TENSION SPRING B0080B0:EM40808	26WH006
B2		M5 CRT SCREW(B) L0990UA	0EM405411
B4		9V DEGAUSS HOLDER T4012UN	0EM405132
B5		CLOTH 190X15XT0.5	TS7623
B6		CLOTH(10X30XT0.5) B5900UA	0EM404486
CL1603		FFC WIRE FFC22P	WX1TD800-004
CL1731		FFC WIRE FFC12P	WX1TD800-003
CLN801		SPEAKER WIRE ASSEMBLY 2P/135MM	WX1TD001-003
CLN802		SPEAKER WIRE ASSEMBLY 2P/135MM	WX1TD001-003
DG601 		DEGAUSSING COIL F-046 or	LLBH00ZTM046
		DEGAUSSING COIL AVDG142	LLBH00ZWR045
L1		SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180
L7		SCREW, P-TIGHT 3X10 BIND HEAD+	GBKP3100
L8		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
L9		SCREW, P-TIGHT M4X12 BIND HEAD+	GBKP4120
SP1801		SPEAKER S08F02B or	DSD0808XQ010
		SPEAKER J-F097-C5	DSD0808DCP01
SP1802		SPEAKER S08F02B or	DSD0808XQ010
		SPEAKER J-F097-C5	DSD0808DCP01
TB1		TRAY CHASSIS TD001UB	0EM000727
TB2		SHIELD BOX(X4) TD801UB	0EM101275
TB10		RCA HOLDER TD001UB	0EM407842
TB12		LABEL, LASER CAUTION (C) TD100UA	0EM405997
TL1		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
V501 		CRT A23QFA221X001	TCRT190SM031

Ref. No.	Mark	Description	Part No.
PACKING			
S1	A	CARTON TD001UB	0EM408049
S1	B	CARTON TD002UC	0EM408057
S2		STYROFOAM TOP TD001UB	0EM000745
S3		STYROFOAM BOTTOM TD001UB	0EM000746
S4	A	SERIAL NO. LABEL TD001UB	-----
S4	B	SERIAL NO. LABEL TD002UC	-----
S6		SET SHEET:1000X600XT0.3 L7300UA	0EM401153
S12		AC CORD SHEET T4400UA	0EM407920
ACCESSORIES			
X1		POLYETHYLENE BAG B5310UL	Z223380
X2 	A	OWNER'S MANUAL TD001UB	0EMN02108
X2 	B	OWNER'S MANUAL TD002UC	0EMN02110
X3		REMOTE CONTROL 182/ERC001/NE207UD	NE207UD
X4		DRY BATTERY R6P UM3 or	XB0M451GH001
		DRY BATTERY R6P(AR)2PX or	XB0M451HU002
		DRY BATTERY R6P(AR)2P X ICI or	XB0M451HU003
		DRY BATTERY(SUNRISE) R6SSE/2S or	XB0M451MS002
		DRY BATTERY R6P/2S	XB0M451T0001
X6		DIPOLE ANTENNA B5307UH or	0EMN00723
		DIPOLE ANTENNA B5700UA	0EMN01183
X7		RETURN STOP SHEET L6101UB	0EM407077
X16		MATCHING ADAPTOR ICM-02N or	UCPGANTPK004
		MATCHING ADAPTOR or	1813641
		MATCHING ADAPTOR	1780258
X22		CAR PLUG CORD WPC0202GA001	WPC0202GA001

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%
 G.....±2% J.....±5% K.....±10%
 M.....±20% N.....±30% Z.....+80/-20%

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N79T0GUN

MAIN (MMA) CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following	0ESA05347
CAPACITORS		
C1003	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1004	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1006	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1007	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1008	ELECTROLYTIC CAP. 100µF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1009	ELECTROLYTIC CAP. 47µF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASTL470
C1031	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1203	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1204	CERAMIC CAP.(AX) B K 0.015µF/50V	CA1J153TU011
C1205	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1206	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1207	FILM CAP.(P) 0.001µF/50V J or	CMA1JJS00102
	FILM CAP.(P) 0.001µF/50V J	CA1J102MS029
C1209	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1212	CERAMIC CAP.(AX) CH J 18pF/50V	CCA1JJTCH180
C1213	CERAMIC CAP.(AX) CH J 18pF/50V	CCA1JJTCH180
C1214	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1215	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1216	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1217	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1218	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1219	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1220	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1221	ELECTROLYTIC CAP. 100µF/10V M or	CE1AMASDL101

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASTL101
C1222	ELECTROLYTIC CAP. 0.1µF/50V M or	CE1JMASDL0R1
	ELECTROLYTIC CAP. 0.1µF/50V M	CE1JMASTL0R1
C1224	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1225	ELECTROLYTIC CAP. 47µF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASTL470
C1227	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1230	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1231	ELECTROLYTIC CAP. 100µF/10V M or	CE1AMASDL101
	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASTL101
C1233	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1256	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1257	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1261	ELECTROLYTIC CAP. 22µF/16V M or	CE1CMASDL220
	ELECTROLYTIC CAP. 22µF/16V M	CE1CMASDL220
C1262	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1263	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1264	CERAMIC CAP.(AX) Y N 0.022µF/6V	CCA0KNT0Y223
C1265	ELECTROLYTIC CAP. 22µF/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASTL220
C1301	CERAMIC CAP.(AX) CH J 100pF/50V	CA1J101TU008
C1302	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1304	ELECTROLYTIC CAP. 100µF/10V M or	CE1AMASDL101
	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASTL101
C1305	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1306	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1308	ELECTROLYTIC CAP. 47µF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASTL470
C1309	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1310	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1311	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1314	CERAMIC CAP.(AX) CH J 10pF/50V	CCA1JJTCH100
C1317	TF CAP. 0.47µF/50V J or	CT1J474MS045
	FILM CAP. 0.47µF/50V J	122Z317S
C1318	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1319	ELECTROLYTIC CAP. 2.2µF/50V M or	CE1JMASDL2R2
	ELECTROLYTIC CAP. 2.2µF/50V M	CE1JMASTL2R2
C1320	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1322	ELECTROLYTIC CAP. 1000µF/10V M or	CE1AMASDL102
	ELECTROLYTIC CAP. 1000µF/10V M	CE1AMASTL102
C1325	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1326	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0

Ref. No.	Description	Part No.
C1327	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JUTSL330
C1328	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JUTSL330
C1329	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JUTSL330
C1333	PCB JUMPER D0.6-P5.0	JW5.0T
C1348	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1350	ELECTROLYTIC CAP. 22μF/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASTL220
C1352	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1452	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C1454	CERAMIC CAP.(AX) F Z 0.022μF/25V	CCA1EZTFZ223
C1455	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C1458	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C1460	CERAMIC CAP.(AX) F Z 0.022μF/25V	CCA1EZTFZ223
C1601▲	METALLIZED FILM CAP. 0.1μF/250V or	CT2E104MS037
▲	FILM CAP.(MP) 0.1μF/250V K or	CT2E104DC011
▲	METALLIZED FILM CAP. 0.1μF/275V K	CT2E104HJE06
C1602	CERAMIC CAP. BN 470pF/2KV or	CCD3DKA0B471
	CERAMIC CAP. LB 470pF/2KV or	CA3D471KG004
	CERAMIC CAP. 470pF/2KV	CA3D471PAN04
C1603	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZP0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C1604	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZP0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C1607	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C1609	FILM CAP.(P) 0.047μF/50V J or	CMA1JJS00473
	FILM CAP.(P) 0.047μF/50V J	CA1J473MS029
C1610▲	ELECTROLYTIC CAP. 470μF/200V or	CA2D471NC013
▲	ELECTROLYTIC CAP. 470μF/200V M W/F	CA2D471EA029
C1611	FILM CAP.(P) 0.0015μF/50V J or	CMA1JJS00152
	FILM CAP.(P) 0.0015μF/50V J	CA1J152MS029
C1612	FILM CAP.(P) 0.033μF/50V J or	CMA1JJS00333
	FILM CAP.(P) 0.033μF/50V J	CA1J333MS029
C1615	CERAMIC CAP. BN 560pF/2KV or	CCD3DKA0B561
	CERAMIC CAP. LB 560pF/2KV or	CA3D561KG004
	CERAMIC CAP. 560pF/2KV	CA3D561PAN04
C1616	ELECTROLYTIC CAP. 47μF/160V M W/F or	CE2CMZNDL470
	ELECTROLYTIC CAP. 47μF/160V M W/F	CE2CMZNTL470
C1617	ELECTROLYTIC CAP. 470μF/35V M or	CE1GMASDL471
	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASTL471
C1619	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C1622	ELECTROLYTIC CAP. 1000μF/16V M or	CE1CMZPDL102
	ELECTROLYTIC CAP. 1000μF/16V M (VR/HC)	CE1CMZNTL102
C1623	FILM CAP.(P) 0.018μF/50V J or	CMA1JJS00183
	FILM CAP.(P) 0.018μF/50V J	CA1J183MS029
C1624	ELECTROLYTIC CAP. 2200μF/6.3V M or	CE0KMZPDL222
	ELECTROLYTIC CAP. 2200μF/6.3V M	CE0KMZPTL222
C1625	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C1626	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C1630	CERAMIC CAP.(AX) B J 150pF/50V	CCA1JUT0B151
C1631	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1632	ELECTROLYTIC CAP. 220μF/16V M or	CE1CMASDL221
	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASTL221
C1633	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1634	ELECTROLYTIC CAP. 1000μF/6.3V M or	CE0KMASDL102

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTL102
C1638	ELECTROLYTIC CAP. 100μF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASTL101
C1639	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1640	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C1642	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1643	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASL101
C1644	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C1647	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C1650	ELECTROLYTIC CAP. 0.47μF/50V M or	CE1JMASDL47
	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASTL47
C1652	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C1653	ELECTROLYTIC CAP. 1000μF/6.3V M or	CE0KMASDL102
	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTL102
C1656	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C1664	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C1665	ZENER DIODE MTZJT-773.9B or	QDTB0MTZJ3R9
	ZENER DIODE DZ-3.9BSBT265	NDTB0DZ3R9BS
C1666	CERAMIC CAP.(AX) X M 2200pF/16V	CCA1CMT0X222
C1668	ELECTROLYTIC CAP. 4.7μF/25V M or	CE1EMASDL47
	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASTL47
C1669	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1670	ELECTROLYTIC CAP. 220μF/6.3V M or	CE0KMASDL221
	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASTL221
C1672	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1702	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C1704	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C1732	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1733	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1734	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C1735	ELECTROLYTIC CAP. 47μF/16V M or	CE1CMASDL470
	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASTL470
C1737	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C1738	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JUTCH200
C1739	CERAMIC CAP.(AX) X K 3300pF/16V	CCA1CKT0X332
C1740	CERAMIC CAP.(AX) X K 3300pF/16V	CCA1CKT0X332
C1741	CERAMIC CAP.(AX) X K 4700pF/16V	CCA1CKT0X472
C1746	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C1748	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C1749	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C1750	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1751	CERAMIC CAP.(AX) F Z 0.022μF/25V	CCA1EZTFZ223
C1752	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JUTSL470
C1754	ELECTROLYTIC CAP. 47μF/16V M or	CE1CMASDL470
	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASTL470
C1756	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JUTSL470
C1757	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221

Ref. No.	Description	Part No.
C1758	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C1759	CERAMIC CAP.(AX) F Z 0.022µF/25V	CCA1EZTF2223
C1762	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1771	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1772	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1773	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1801	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1802	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C1803	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASTL1R0
C1804	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C1807	ELECTROLYTIC CAP. 470µF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASTL471
C1808	ELECTROLYTIC CAP. 100µF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASTL101
C1809	ELECTROLYTIC CAP. 330µF/16V M or	CE1CMASDL331
	ELECTROLYTIC CAP. 330µF/16V M	CE1CMASTL331
C1813	ELECTROLYTIC CAP. 330µF/16V M or	CE1CMASDL331
	ELECTROLYTIC CAP. 330µF/16V M	CE1CMASTL331
C1814	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1815	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103
C1816	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
C1817	ELECTROLYTIC CAP. 10µF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASTL100
CONNECTORS		
CN1302	CONNECTOR BASE 12P TUC-P12P-B1	J3TUA12TG001
CN1601▲	CONNECTOR BASE, 2P TV-50P-02-V3 or	J3TVC02TG002
▲	CONNECTOR BASE, 2P RTB-1.5-2P	J3RTC02JG001
CN1603	FMN CONNECTOR, TOP 22P 22FMN-BTRK	JCFNG22JG002
CN1604	CONNECTOR BASE 17P TUC-P17P-B1	J3TUA17TG001
CN1731	FMN CONNECTOR, TOP 12P 12FMN-BTRK	JCFNG12JG002
CN1801	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN1802	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
DIODES		
D1225	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1226	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1281	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1307	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1309	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1310	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1311	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1312	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133

Ref. No.	Description	Part No.
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1313	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1314	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1315	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1316	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1317	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1318	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1320	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1350	PCB JUMPER D0.6-P5.0	JW5.0T
D1603▲	DIODE 1N5399-B/P or	NDLZ001N5399
▲	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D1604▲	DIODE 1N5399-B/P or	NDLZ001N5399
▲	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D1605▲	DIODE 1N5399-B/P or	NDLZ001N5399
▲	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D1606▲	DIODE 1N5399-B/P or	NDLZ001N5399
▲	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D1607▲	ZENER DIODE MTZJT-7720C or	QDTC00MTZJ20
▲	ZENER DIODE DZ-20BSCT265	NDTC00DZ20BS
D1609▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1610	ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6
	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D1613	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1614▲	ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36
▲	ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS
D1616	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1617▲	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
▲	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1618▲	RECOVERY DIODE ERC18-04	QDZZ0ERC1804
D1619▲	DIODE FR104-B	NDLZ000FR104
D1620▲	ZENER DIODE MTZJT-776.8B or	QDTB0MTZJ6R8
▲	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D1621	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1622▲	DIODE FR104-B	NDLZ000FR104
D1623▲	DIODE FR154 or	NDLZ000FR154
▲	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D1624▲	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D1625▲	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
▲	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1626	ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36
	ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS
D1627▲	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D1628▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1629▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1630	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148

Ref. No.	Description	Part No.
D1631	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1632	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D1633	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D1634	ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1
	ZENER DIODE DZ-9.1BSBT265	NTDB0DZ9R1BS
D1635	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1636	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1637▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1638▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1640▲	DIODE 1ZC30 or	QDQZ0001ZC30
▲	ZENER DIODE RD30FB	QDQZ000RD30F
D1641	ZENER DIODE MTZJT-7713B or	QDTB00MTZJ13
	ZENER DIODE DZ-13BSBT265	NTDB00DZ13BS
D1643	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1644	ZENER DIODE MTZJT-775.6C or	QDTC0MTZJ5R6
	ZENER DIODE DZ-5.6BSCT265	NDTC0DZ5R6BS
D1645	ZENER DIODE MTZJT-776.8A or	QDTA0MTZJ6R8
	ZENER DIODE DZ-6.8BSAT265	NTDA0DZ6R8BS
D1647	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1648	ZENER DIODE MTZJT-7713B or	QDTB00MTZJ13
	ZENER DIODE DZ-13BSBT265	NTDB00DZ13BS
D1649▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1650▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1651▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1652▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1657	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1660	PCB JUMPER D0.6-P5.0	JW5.0T
D1661	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1663	ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6
	ZENER DIODE DZ-5.6BSBT265	NTDB0DZ5R6BS
D1664	ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6
	ZENER DIODE DZ-5.6BSBT265	NTDB0DZ5R6BS
D1666	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1730	ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6
	ZENER DIODE DZ-5.6BSBT265	NTDB0DZ5R6BS
D1732	PCB JUMPER D0.6-P5.0	JW5.0T
D1735	PCB JUMPER D0.6-P5.0	JW5.0T
D1736	ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1
	ZENER DIODE DZ-5.1BSBT265	NTDB0DZ5R1BS
D1739	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1740	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1801	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148

Ref. No.	Description	Part No.
D1856	PCB JUMPER D0.6-P5.0	JW5.0T
ICS		
IC1201▲	MICRO-COMPUTER/VCD M61271M8-053FP-61	QSZAB0RMB150
IC1202	IC:MEMORY BR24C02F-W or	QSMBA0SRM003
	IC:MEMORY AT24C02N-10SC or	NSMMA0SAZ012
	IC(EEPROM) M24C02-MN6 or	NSMMA0SSS028
	IC:MEMORY BR24C02F or	QSMMA0SRM003
	IC:EEPROM CAT24WC02JL or	NSZBA0SBG001
	IC(EEP-ROM) M24C02-WMN6	NSZAA0SSS004
IC1451	IC:SWITCH TC4053BF(N) or	QSMBA0STS002
	IC:ANALOG MULTIPLEXERS CD4053BCSJX	NSZBA0TF3071
IC1452	IC:SWITCH TC4053BF(N) or	QSMBA0STS002
	IC:ANALOG MULTIPLEXERS CD4053BCSJX	NSZBA0TF3071
IC1601▲	PHOTOCOUPLER PS2501-1W or	QPEW0PS25011
▲	PHOTO COUPLER PS2501-1L	QPEL0PS25011
IC1602▲	1.8V REGULATOR PQ018EF01SZ	QSZBA0SSH012
IC1603	VOLTAGE REGULATOR PQ070XF01SZ	QSZBA0SSH026
IC1604▲	IC KIA431-AT	NSZLA0TJY001
IC1731	IC:OP AMP NJM4558D	QSZBA0SJR006
IC1801	AUDIO POWER IC AN17805A	QSZBA0SMS007
COILS		
L1001	PCB JUMPER D0.6-P5.0	JW5.0T
L1002	PCB JUMPER D0.6-P5.0	JW5.0T
L1201	INDUCTOR 22μH-K-5FT or	LLARKBSTU220
	INDUCTOR 22μH-K-5FT	LLARKDSKA220
L1202	INDUCTOR 22μH-J-26T or	LLAXJATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220
L1203	INDUCTOR 22μH-J-26T or	LLAXJATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220
L1204	INDUCTOR 22μH-J-26T or	LLAXJATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220
L1302	PCB JUMPER D0.6-P5.0	JW5.0T
L1601▲	LINE FILTER 2.7MH ELF15N013A	LLBG00ZMS037
L1602	INDUCTOR 2.2μH-K-5FT or	LLARKBSTU2R2
	INDUCTOR 2.2μH-K-5FT	LLARKDSKA2R2
L1603	INDUCTOR 22μH-K-5FT or	LLARKBSTU220
	INDUCTOR 22μH-K-5FT	LLARKDSKA220
L1609	PCB JUMPER D0.6-P5.0	JW5.0T
L1610	PCB JUMPER D0.6-P5.0	JW5.0T
L1611	PCB JUMPER D0.6-P5.0	JW5.0T
L1612	PCB JUMPER D0.6-P5.0	JW5.0T
L1613	PCB JUMPER D0.6-P5.0	JW5.0T
L1730	INDUCTOR 2.2μH-J-26T or	LLAXJATTU2R2
	INDUCTOR 2.2μH-K-26T	LLAXKDTKA2R2
L1731	PCB JUMPER D0.6-P5.0	JW5.0T
L1732	PCB JUMPER D0.6-P5.0	JW5.0T
L1733	INDUCTOR 2.2μH-J-26T or	LLAXJATTU2R2
	INDUCTOR 2.2μH-K-26T	LLAXKDTKA2R2
L1734	PCB JUMPER D0.6-P5.0	JW5.0T
L1735	PCB JUMPER D0.6-P5.0	JW5.0T
L1737	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L1738	PCB JUMPER D0.6-P5.0	JW5.0T
L1739	INDUCTOR 0.47μH-J-26T or	LLAXJATTUR47
	INDUCTOR 0.47μH-K-26T	LLAXKDTKAR47
L1851	PCB JUMPER D0.6-P5.0	JW5.0T
L1852	INDUCTOR 2.2μH-K-5FT or	LLARKBSTU2R2
	INDUCTOR 2.2μH-K-5FT	LLARKDSKA2R2
L1853	INDUCTOR 2.2μH-K-5FT or	LLARKBSTU2R2
	INDUCTOR 2.2μH-K-5FT	LLARKDSKA2R2

Ref. No.	Description	Part No.
L1854	PCB JUMPER D0.6-P5.0	JW5.0T
L1855	INDUCTOR 2.2μH-K-5FT or	LLARKBSTU2R2
	INDUCTOR 2.2μH-K-5FT	LLARKDSKA2R2
L1856	INDUCTOR 2.2μH-J-26T or	LLAXJATTU2R2
	INDUCTOR 2.2μH-K-26T	LLAXKDTKA2R2
L1857	INDUCTOR 2.2μH-J-26T or	LLAXJATTU2R2
	INDUCTOR 2.2μH-K-26T	LLAXKDTKA2R2
TRANSISTORS		
Q1261	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1282	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1301	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1350	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1453	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400 or	2SC3400Z
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q1454	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400 or	2SC3400Z
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q1601▲	MOS FET 2SK2662	QF5Z02SK2662
Q1602▲	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
▲	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1604▲	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
▲	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
▲	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1605	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1606	TRANSISTOR 2SA950(O) or	Q2SA9500TPE2
	TRANSISTOR 2SA950(Y) or	Q2SA950YTPE2
	TRANSISTOR KTA1271(Y)	NQSY0KTA1271
Q1607	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1608	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120

Ref. No.	Description	Part No.
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1609	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1610▲	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
▲	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
▲	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
▲	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1611	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2) or	QQS102SC1815
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U)	QSC3331UNPAA
Q1612	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1613	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1614	TRANSISTOR 2SD400(F)	QQUF002SD400
Q1616	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q1619▲	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
▲	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
▲	TRANSISTOR 2SC1815-GR(TPE2) or	QQS102SC1815
▲	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
▲	TRANSISTOR 2SC3331(U)	QSC3331UNPAA
Q1620	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1621	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1622	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1623	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1625	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1731	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785

Ref. No.	Description	Part No.
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1732	TRANSISTOR 2SA1175(F) or	QQSFO2SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1733	TRANSISTOR 2SC2785(F) or	QQSFO2SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1734	TRANSISTOR 2SC2785(F) or	QQSFO2SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1736	TRANSISTOR 2SC2785(F) or	QQSFO2SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1737	TRANSISTOR 2SA1175(F) or	QQSFO2SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1738	TRANSISTOR 2SA1175(F) or	QQSFO2SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
RESISTORS		
R1001	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1002	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1032	PCB JUMPER D0.6-P5.0	JW5.0T
R1035	CARBON RES. 1/4W J 470k Ω or	RCX4JATZ0474
	CARBON RES. 1/6W J 470k Ω	RCX6JATZ0474
R1201	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R1202	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R1203	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1204	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R1205	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1206	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R1207	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R1208	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1209	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R1210	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472

Ref. No.	Description	Part No.
R1211	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1212	PCB JUMPER D0.6-P5.0	JW5.0T
R1214	PCB JUMPER D0.6-P5.0	JW5.0T
R1216	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1217	PCB JUMPER D0.6-P5.0	JW5.0T
R1220▲	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
▲	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1221▲	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
▲	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1222▲	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
▲	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1223▲	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
▲	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1224	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R1225	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1226	PCB JUMPER D0.6-P5.0	JW5.0T
R1227	PCB JUMPER D0.6-P5.0	JW5.0T
R1228	PCB JUMPER D0.6-P5.0	JW5.0T
R1229	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R1230	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R1232	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R1233	PCB JUMPER D0.6-P5.0	JW5.0T
R1234	PCB JUMPER D0.6-P5.0	JW5.0T
R1235	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R1238	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1240	CARBON RES. 1/4W J 1M Ω or	RCX4JATZ0105
	CARBON RES. 1/6W J 1M Ω	RCX6JATZ0105
R1241	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1257	PCB JUMPER D0.6-P5.0	JW5.0T
R1260	PCB JUMPER D0.6-P5.0	JW5.0T
R1261	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1262	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1263	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R1264	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1265	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R1281	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R1283	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1284	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R1285	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R1289	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1301	CARBON RES. 1/4W J 180k Ω or	RCX4JATZ0184

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 180k Ω	RCX6JATZ0184
R1302	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R1303	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1304	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1305	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1306	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R1307	PCB JUMPER D0.6-P5.0	JW5.0T
R1308	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1309	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R1312	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1313	PCB JUMPER D0.6-P5.0	JW5.0T
R1314	PCB JUMPER D0.6-P5.0	JW5.0T
R1317	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1318	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R1319	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R1320	CARBON RES. 1/4W J 120k Ω or	RCX4JATZ0124
	CARBON RES. 1/6W J 120k Ω	RCX6JATZ0124
R1323	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R1324	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1334	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R1335	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R1336	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R1337	PCB JUMPER D0.6-P5.0	JW5.0T
R1338	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R1346	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R1351	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1430	PCB JUMPER D0.6-P5.0	JW5.0T
R1464	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1465	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1466	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1467	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1469	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1472	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1473	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1474	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1475	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1476	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1477	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1478	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1479	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1480	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1600	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1601▲	CEMENT RES. 3W K 1.2 Ω or	RW031R2PG007
▲	CEMENT RES. 5W K 1.2 Ω or	RW051R2DP005
▲	CEMENT RESISTOR 5W K 1.2 Ω or	RW051R2PG001
▲	CEMENT RESISTOR 5W J 1.2 Ω	RW051R2Y4001
R1602	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R1603	CARBON RES. 1/4W J 220 Ω or	RCX4JATZ0221
	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R1604▲	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1605▲	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1606	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1607	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1608	CARBON RES. 1/4W J 180k Ω or	RCX4JATZ0184
	CARBON RES. 1/6W J 180k Ω	RCX6JATZ0184
R1609	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R1610	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R1611▲	METAL OXIDE FILM RES. 2W J 0.39 Ω or	RN02R39ZU001
▲	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39DP004
R1612▲	METAL OXIDE FILM RES. 2W J 0.68 Ω or	RN02R68ZU001
▲	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68DP004
R1613	CARBON RES. 1/4W J 120 Ω or	RCX4JATZ0121
	CARBON RES. 1/6W J 120 Ω	RCX6JATZ0121
R1614	CARBON RES. 1/4W J 1.2k Ω or	RCX4JATZ0122
	CARBON RES. 1/6W J 1.2k Ω	RCX6JATZ0122
R1615	CARBON RES. 1/4W J 27k Ω or	RCX4JATZ0273
	CARBON RES. 1/6W J 27k Ω	RCX6JATZ0273
R1616	PCB JUMPER D0.6-P5.0	JW5.0T
R1617	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R1618▲	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
▲	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R1619	METAL OXIDE FILM RES. 1W J 820 Ω or	RN01821ZU001
	METAL OXIDE FILM RES. 1W J 820 Ω	RN01821DP003
R1620▲	METAL OXIDE FILM RES. 2W J 10k Ω or	RN02103ZU001
▲	METAL OXIDE FILM RES. 2W J 10k Ω	RN02103DP004
R1621▲	METAL OXIDE FILM RES. 2W J 10k Ω or	RN02103ZU001
▲	METAL OXIDE FILM RES. 2W J 10k Ω	RN02103DP004
R1622	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R1623▲	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
▲	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R1624▲	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1625▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1629▲	CARBON RES. 1/4W J 13k Ω or	RCX4JATZ0133

Ref. No.	Description	Part No.
▲	CARBON RES. 1/6W J 13k Ω	RCX6JATZ0133
R1630▲	CARBON RES. 1/4W J 13k Ω or	RCX4JATZ0133
▲	CARBON RES. 1/6W J 13k Ω	RCX6JATZ0133
R1631▲	CARBON RES. 1/4W J 13k Ω or	RCX4JATZ0133
▲	CARBON RES. 1/6W J 13k Ω	RCX6JATZ0133
R1632▲	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
▲	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R1633▲	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
▲	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R1634	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R1635	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1636▲	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
▲	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R1637	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R1638	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1639▲	CARBON RES. 1/2W J 820 Ω or	RCX2JZQZ0821
▲	CARBON RES. 1/2W J 820 Ω or	RCX2821KA013
▲	CARBON RES. 1/2W J 820 Ω	RCX2JZPZ0821
R1640	CARBON RES. 1/4W J 56k Ω or	RCX4JATZ0563
	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R1641	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1642	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R1643▲	CARBON RES. 1/2W J 18 Ω or	RCX2JZQZ0180
▲	CARBON RES. 1/2W J 18 Ω or	RCX2180KA013
▲	CARBON RES. 1/2W J 18 Ω	RCX2JZPZ0180
R1644	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1645▲	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
▲	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1646	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1647▲	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
▲	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R1648▲	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
▲	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R1649▲	METAL OXIDE FILM RES. 2W J 10 Ω or	RN02100ZU001
▲	METAL OXIDE FILM RES. 2W J 10 Ω	RN02100DP004
R1650	PCB JUMPER D0.6-P5.0	JW5.0T
R1651▲	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
▲	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1652	METAL OXIDE FILM RES. 1W J 47 Ω or	RN01470ZU001
	METAL OXIDE FILM RES. 1W J 47 Ω	RN01470DP003
R1653▲	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
▲	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R1654▲	METAL OXIDE FILM RES. 1W J 0.22 Ω or	RN01R22ZU001
▲	METAL OXIDE FILM RES. 1W J 0.22 Ω	RN01R22DP003
R1655▲	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
▲	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R1656	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1657	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1658	METAL OXIDE FILM RES. 1W J 1 Ω or	RN011R0ZU001
	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0DP003
R1659	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1660	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1661	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1662	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R1663	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R1664	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1665	METAL OXIDE FILM RES. 2W J 1 Ω or	RN021R0ZU001
	METAL OXIDE FILM RES. 2W J 1 Ω	RN021R0DP004
R1666▲	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
▲	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R1667▲	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
▲	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R1669	PCB JUMPER D0.6-P5.0	JW5.0T
R1670	CARBON RES. 1/4W G 4.7k Ω or	RCX4GATZ0472
	CARBON RES. 1/6W G 4.7k Ω	RCX6GATZ0472
R1671	CARBON RES. 1/4W G 8.2k Ω or	RCX4GATZ0822
	CARBON RES. 1/6W G 8.2k Ω	RCX6GATZ0822
R1673	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1674	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R1675	CARBON RES. 1/4W J 680 Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R1680	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1681	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1682	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1683	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1684	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1685	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1686	CARBON RES. 1/4W J 1.2 Ω or	RCX4JATZ01R2
	CARBON RES. 1/6W J 1.2 Ω	RCX6JATZ01R2
R1687	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1688	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R1689	CARBON RES. 1/4W G 18k Ω or	RCX4GATZ0183
	CARBON RES. 1/6W G 18k Ω	RCX6GATZ0183
R1690	CARBON RES. 1/4W G 56k Ω or	RCX4GATZ0563
	CARBON RES. 1/6W G 56k Ω	RCX6GATZ0563
R1691▲	METAL OXIDE FILM RES. 1W J 1 Ω or	RN011R0ZU001
▲	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0DP003
R1692	METAL OXIDE FILM RES. 2W J 0.22 Ω or	RN02R22ZU001
	METAL OXIDE FILM RES. 2W J 0.22 Ω	RN02R22DP004
R1693	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1694	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1695	CARBON RES. 1/4W J 390 Ω or	RCX4JATZ0391
	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R1696	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1697	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1698	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1699▲	CARBON RES. 1/4W J 3.9k Ω or	RCX4JATZ0392
▲	CARBON RES. 1/6W J 3.9k Ω	RCX6JATZ0392
R1701	CARBON RES. 1/4W J 75 Ω or	RCX4JATZ0750
	CARBON RES. 1/6W J 75 Ω	RCX6JATZ0750
R1703	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1706	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1733	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1734	CARBON RES. 1/4W J 75 Ω or	RCX4JATZ0750
	CARBON RES. 1/6W J 75 Ω	RCX6JATZ0750
R1735	CARBON RES. 1/4W J 220 Ω or	RCX4JATZ0221
	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R1736	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R1737	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R1738	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1739	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R1740	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R1742	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R1743	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1744	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1745	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1746	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1749	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R1750	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R1752	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R1753	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1756	CARBON RES. 1/4W J 20k Ω or	RCX4JATZ0203
	CARBON RES. 1/6W J 20k Ω	RCX6JATZ0203
R1758	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R1759	PCB JUMPER D0.6-P5.0	JW5.0T
R1760	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R1761	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R1762	CARBON RES. 1/4W J 30k Ω or	RCX4JATZ0303
	CARBON RES. 1/6W J 30k Ω	RCX6JATZ0303
R1763	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R1764	CARBON RES. 1/4W J 30k Ω or	RCX4JATZ0303

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 30k Ω	RCX6JATZ0303
R1765	PCB JUMPER D0.6-P5.0	JW5.0T
R1767	PCB JUMPER D0.6-P5.0	JW5.0T
R1768	PCB JUMPER D0.6-P5.0	JW5.0T
R1778	CARBON RES. 1/4W J 20k Ω or	RCX4JATZ0203
	CARBON RES. 1/6W J 20k Ω	RCX6JATZ0203
R1788	CARBON RES. 1/4W J 75 Ω or	RCX4JATZ0750
	CARBON RES. 1/6W J 75 Ω	RCX6JATZ0750
R1789	CARBON RES. 1/4W J 75 Ω or	RCX4JATZ0750
	CARBON RES. 1/6W J 75 Ω	RCX6JATZ0750
R1790	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R1791	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R1792	PCB JUMPER D0.6-P5.0	JW5.0T
R1793	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R1794	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R1795	PCB JUMPER D0.6-P5.0	JW5.0T
R1801▲	METAL OXIDE FILM RES. 1W J 1 Ω or	RN011R0ZU001
▲	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0DP003
R1802	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R1804	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1805	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R1806	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R1808	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1809	METAL OXIDE FILM RES. 1W J 1 Ω or	RN011R0ZU001
	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0DP003
R1810	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R1814	PCB JUMPER D0.6-P5.0	JW5.0T
R1851	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R1852	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R1901	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
SWITCHES		
SW1201	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHIAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1202	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHIAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1203	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHIAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1204	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHIAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1205	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHIAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1206	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHIAM or	SST0101AL029

Ref. No.	Description	Part No.
	TACT SWITCH KSM0612B	SST0101HH003
SW1207	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1208	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1209	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1210	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW1211	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
MISCELLANEOUS		
BC1601	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1602	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1605	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1606	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1730	PCB JUMPER D0.6-P5.0	JW5.0T
BC1731	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1732	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1733	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1734	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1735	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1736	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1738	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
F1601▲	FUSE 4.00A/125V or	PAGU20CAG402
▲	FUSE 51MS040L or	PAFC20CHV402
▲	FUSE 4A/125V 237 TYPE or	PAGJ20CAG402
▲	FUSE STC4A125V U/CT or	PAGE20CW3402
▲	FUSE 4.00A/125V	PAGG20CNG402
FH1601	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1602	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078	XH01Z00DK001
JK1701	RCA JACK(YELLOW) MTJ-032-05B-20	JXRL010LY038
JK1702	RCA JACK(RED) MTJ-032-05A-21	JYRL010LY010
JK1703	RCA JACK(WHITE) MTJ-032-05B-22	JXRL010LY039
JK1730	3PIN JACK AV MSP-243VS-23	JXRL030LY037
JK1801	MINI JACK HSJ2000-01-010 or	JYSL010HD002
	MINI JACK MSJ-2000	JYSL010LY003
PS1601▲	THERMISTOR ZPB45BL7R0A	QNZZ45BL7R0A
RS1201	REMOCON RESEVER MIM-93M8DKL-C or	USESJRSUNT05
	REMOCON RECEIVE UNIT PIC-37042SR or	USESJRSKK034
	REMOCON RECEIVE UNIT PIC-26042SR-2	USESJRSKK032
SA1601▲	SURGE ABSORBER JVR-07N471K or	NVQZVR07N471
▲	SURGE ABSORBER CNR-10D471K or	NVQZR10D471K
▲	SURGE ABSORBER CNR-07D471K or	NVQZR07D471K
▲	SURGE ABSORBER PVR-07D471KB	NVQZ07D471KB
SG1601▲	GAP. FNR-G3.10D	FAZ000LD6005
T1601▲	SWITCHING TRANS 02714	LTT00CPKT105
TB3	X3 FILTER HEAT SINK PGL TD500UA	0EM407094
TB9	13V HEAT SINK PHQ TD701UB	0EM407765
TB19	9V CHASSIS NO.LABEL TJ TD001UB	0EM408132
TL2	SCREW, B-TIGHT M3X8 BIND HEAD+ or	GBMB3080
	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
TP1301	PCB JUMPER D0.6-P7.5	JW7.5T
TP1302	PCB JUMPER D0.6-P15.0	JW15.0T

Ref. No.	Description	Part No.
TP1303	PCB JUMPER D0.6-P7.5	JW7.5T
TP1401	PCB JUMPER D0.6-P10.0	JW10.0T
TP1402	PCB JUMPER D0.6-P10.0	JW10.0T
TP1731	PCB JUMPER D0.6-P7.5	JW7.5T
TP1732	PCB JUMPER D0.6-P7.5	JW7.5T
TP1733	PCB JUMPER D0.6-P10.0	JW10.0T
TU1001	TUNER TMQH2-001A	UTUNNTUAL036
VR1601▲	CARBON P.O.T. 10k Ω B or	VRCB103KA012
▲	CARBON P.O.T. 10k Ω B	VRCB103HH002
W1601▲	AC CORD PB8K9F9110A-057 or	WAC0172LW008
▲	AC CORD WAC0172LTE01 or	WAC0172LTE01
▲	AC CORD WAC0172AS006 or	WAC0172AS006
▲	AC CORD LA-2366 or	WAC0172LW006
▲	AC CORD A0A0280-007	WAC0172LTE04
X1201	X'TAL 8.00MHz	FXD805LLN001
X1301	X'TAL 3.579545 MHz or	FXD355LLN003
	X'TAL 3.579545MHz(30PPM)	FXD355LCHE01

H.V. CBA ASSEMBLY

Ref. No.	Description	Part No.
	H.V. CBA ASSEMBLY Consists of the following	X4S09HV1
	H.V./DC Power Supply CBA	-----
	CRT CBA	-----
	JUCNTION A CBA	-----
	JUCNTION B CBA	-----

H.V./DC Power Supply CBA

Ref. No.	Description	Part No.
	H.V./DC Power Supply CBA Consists of the following	-----
CAPACITORS		
C552	MYLAR CAP. 0.22μF/50V J or	CMA1JJS00224
	FILM CAP.(P) 0.22μF/50V J	CA1J224MS029
C553	ELECTROLYTIC CAP. 2.2μF/50V M LL or	CE1JMASLL2R2
	ELECTROLYTIC CAP. 2.2μF/50V LL	CE1JMASLH2R2
C555	ELECTROLYTIC CAP. 47μF/35V M or	CE1GMASDL470
	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASLTL470
C556▲	ELECTROLYTIC CAP. 1000μF/25V M or	CE1EMZPDL102
▲	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPTL102
C558	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C559	ELECTROLYTIC CAP. 330μF/35V M or	CE1GMASDL331
	ELECTROLYTIC CAP. 330μF/35V M	CE1GMASLTL331
C560	FILM CAP.(P) 0.01μF/50V J or	CMA1JJS00103
	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C571▲	P.P. CAP. 0.15μF/200V J or	CA2D154VC012
▲	PP CAP. 0.15μF/250V J	CT2E154MS041
C574▲	ELECTROLYTIC CAP. 4.7μF/250V M or	CE2EMASDL4R7
▲	ELECTROLYTIC CAP. 4.7μF/250V M	CE2EMASLTL4R7
C577	FILM CAP.(P) 0.022μF/50V J or	CMA1JJS00223
	FILM CAP.(P) 0.022μF/50V J	CA1J223MS029
C578	ELECTROLYTIC CAP. 47μF/35V M or	CE1GMASDL470
	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASLTL470
C580▲	P.P.CAP. 0.0068μF/1.6KV J or	CA3C682VC011
▲	PP CAP. 0.0068μF/1.6KV J or	CT3C682MS039
▲	PP CAP. 0.0068μF/1.6KV J	CBH3CJ000682
C581▲	CERAMIC CAP. BN 330pF/2KV or	CCD3DKA0B331
▲	CERAMIC CAP. LB 330pF/2KV or	CA3D331KG004
▲	CERAMIC CAP. 330pF/2KV	CA3D331PAN04

Ref. No.	Description	Part No.
C584▲	ELECTROLYTIC CAP. 1μF/160V M or	CE2CMASDL1R0
▲	ELECTROLYTIC CAP. 1μF/160V M or	CE2CMASDL010
▲	ELECTROLYTIC CAP. 1μF/160V M	CE2CMASDL1R0
C591▲	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL1R0
▲	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL010
▲	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C592▲	ELECTROLYTIC CAP. 4.7μF/35V M or	CE1GMASDL4R7
▲	ELECTROLYTIC CAP. 4.7μF/35V M	CE1GMASDL4R7
C594	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPDL101
	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPTL101
	ELECTROLYTIC CAP. 100μF/160V M W/F	CE2CMZNTL101
C930	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C931	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C932	CERAMIC CAP.(AX) B K 0.0047μF/50V	CA1J472TU011
C933	ELECTROLYTIC CAP. 10μF/16V M or	CE1CMASDL100
	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C935	ELECTROLYTIC CAP. 2200μF/6.3V M or	CE0KMZPDL222
	ELECTROLYTIC CAP. 2200μF/6.3V M	CE0KMZPTL222
C937	ELECTROLYTIC CAP. 100μF/25V M or	CE1EMASDL101
	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C952	ELECTROLYTIC CAP. 3300μF/25V(PJ) or	CA1E332NC052
	ELECTROLYTIC CAP. 3300μF/25V M(KC)	CA1E332EA041
C953	ELECTROLYTIC CAP. 1000μF/25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPTL102
C954	ELECTROLYTIC CAP. 22μF/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C957	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C958▲	CERAMIC CAP. BN 330pF/2KV or	CCD3DKA0B331
▲	CERAMIC CAP. LB 330pF/2KV or	CA3D331KG004
▲	CERAMIC CAP. 330pF/2KV	CA3D331PAN04
C959▲	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPDL101
▲	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPTL101
▲	ELECTROLYTIC CAP. 100μF/160V M W/F	CE2CMZNTL101
C960	CERAMIC CAP. B K 1500pF/1KV	CCD3AKP0B152
C961	ELECTROLYTIC CAP. 220μF/35V M or	CE1GMASDL221
	ELECTROLYTIC CAP. 220μF/35V M	CE1GMASDL221
C963	FILM CAP.(P) 0.0012μF/50V J or	CMA1JJS00122
	FILM CAP.(P) 0.0012μF/50V J	CA1J122MS029
C966	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
CONNECTORS		
CN571	CONNECTOR BASE, 5P TV-50P-05-V3 or	J3TVC05TG002
	CONNECTOR BASE, 5P RTB-1.5-5P	J3RTC05JG001
DIODES		
D552	DIODE 1N5397-B or	NDLZ001N5397
	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D571▲	DIODE FR154 or	NDLZ000FR154
▲	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D572▲	DIODE FR104-B	NDLZ000FR104
D584▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D585▲	ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1
▲	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D591▲	ZENER DIODE MTZJT-7736B or	QDTB00MTZJ36
▲	ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS
D595▲	ZENER DIODE MTZJT-7718B or	QDTB00MTZJ18
▲	ZENER DIODE DZ-18BSBT265	NDTB00DZ18BS
D596	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148

Ref. No.	Description	Part No.
D597▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D598▲	DIODE FR104-B	NDLZ000FR104
D952▲	DIODE 1ZC18 or	QDQZ0001ZC18
▲	ZENER DIODE RD18F	QDQZ000RD18F
D955	FAST RECOVERY DIODE 20NFA60 or	QDAZ020NFA60
	FAST RECOVERY DIODE ERD38-06	QDQZ0ERD3806
D956▲	DIODE FR154 or	NDLZ000FR154
▲	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D957	ZENER DIODE MTZJT-7711B or	QDTB00MTZJ11
	ZENER DIODE DZ-11BSBT265	NDTB00DZ11BS
D958	RECTIFIER DIODE 1N4005	NDQZ001N4005
D959	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D960	DIODE FR104-B	NDLZ000FR104
D961	DIODE FR104-B	NDLZ000FR104
D962	RECTIFIER DIODE 1N4005	NDQZ001N4005
D963	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D964	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D965	ZENER DIODE MTZJT-776.8B or	QDTB0MTZJ6R8
	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D966	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D967	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D968	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
ICS		
IC551▲	VERTICAL OUTPUT IC AN5522 or	QSZBA0SMS002
▲	VERTICAL OUTPUT IC LA78040A	QSBBA0SSY003
IC902▲	IC(REGULATOR) PQ1CG21HFZ	QSZBA0SSH004
IC951▲	IC:SWITCHING REGULATOR M62212FP	QSZBA0TMB004
COILS		
L551	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L953	CHOKE COIL 220μH-K	LLBD00PKV014
L961	CHOKE COIL 47μH-K-1	LLBD00PKV017
TRANSISTORS		
Q571▲	TRANSISTOR TT2138LS-YB11 or	QQZZ00TT2138
▲	TRANSISTOR 2SC5884000RF	QQZZ02SC5884
Q572▲	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q591▲	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
▲	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
▲	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
▲	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
▲	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q930▲	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
▲	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
▲	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
▲	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
▲	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q931▲	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q932▲	TRANSISTOR KTA1267(GR)	NQS10KTA1267
Q933▲	MOS FET 2SK2232 or	QF5Z02SK2232
▲	MOS FET FS30KMJ-06	QFZZ0FS30KMJ
Q934▲	TRANSISTOR 2SC2785(F) or	QQSF02SC2785

Ref. No.	Description	Part No.
▲	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
▲	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
▲	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
▲	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q935	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q951	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q952	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400 or	2SC3400Z
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q953▲	TRANSISTOR 2SA1931 or	QQZZ02SA1931
▲	TRANSISTOR 2SA1469(R)	QQ9R02SA1469
Q954	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q955	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q956	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
R536	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R551	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R556	CARBON RES. 1/4W J 4.7 Ω or	RCX4JATZ04R7
	CARBON RES. 1/6W J 4.7 Ω	RCX6JATZ04R7
R557	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R558	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R559	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R560	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R561	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R562	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R563	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R565▲	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R566▲	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R567▲	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
R568▲	PCB JUMPER D0.6-P5.0	JW5.0T
R569▲	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R570▲	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R573	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R575▲	METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102ZU001
▲	METAL OXIDE FILM RES. 2W J 1k Ω	RN02102DP004
R576▲	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
▲	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R577	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R579	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R580	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R583▲	METAL OXIDE FILM RES. 2W J 3.9 Ω or	RN023R9ZU001
▲	METAL OXIDE FILM RES. 2W J 3.9 Ω	RN023R9DP004
R584▲	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
▲	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R585	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R586	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R587▲	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R588▲	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R589▲	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R590▲	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R591▲	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
▲	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R592▲	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R593▲	CARBON RES. 1/4W J 68k Ω or	RCX4JATZ0683
▲	CARBON RES. 1/6W J 68k Ω	RCX6JATZ0683
R594▲	CARBON RES. 1/4W J 68k Ω or	RCX4JATZ0683
▲	CARBON RES. 1/6W J 68k Ω	RCX6JATZ0683
R596	PCB JUMPER D0.6-P5.0	JW5.0T
R597▲	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
▲	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R598▲	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
▲	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R599▲	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
▲	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R907	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R908	CARBON RES. 1/4W G 1k Ω or	RCX4GATZ0102
	CARBON RES. 1/6W G 1k Ω	RCX6GATZ0102
R910	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R911	CARBON RES. 1/4W G 3.3k Ω or	RCX4GATZ0332
	CARBON RES. 1/6W G 3.3k Ω	RCX6GATZ0332
R912	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R913	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R914	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R930	PCB JUMPER D0.6-P5.0	JW5.0T
R931	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R932	CARBON RES. 1/4W J 390 Ω or	RCX4JATZ0391
	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R933	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470

Ref. No.	Description	Part No.
R934	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R935	CARBON RES. 1/4W J 390 Ω or	RCX4JATZ0391
	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R936	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R937	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R938	CARBON RES. 1/4W J 18k Ω or	RCX4JATZ0183
	CARBON RES. 1/6W J 18k Ω	RCX6JATZ0183
R939	PCB JUMPER D0.6-P5.0	JW5.0T
R940	CARBON RES. 1/4W J 680k Ω or	RCX4JATZ0684
	CARBON RES. 1/6W J 680k Ω	RCX6JATZ0684
R941	CARBON RES. 1/4W J 330k Ω or	RCX4JATZ0334
	CARBON RES. 1/6W J 330k Ω	RCX6JATZ0334
R942	CARBON RES. 1/4W J 1 Ω or	RCX4JATZ01R0
	CARBON RES. 1/6W J 1 Ω	RCX6JATZ01R0
R953	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R954	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R955▲	PCB JUMPER D0.6-P5.0	JW5.0T
R958▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R959▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R960	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R961▲	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
▲	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R962▲	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
▲	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R963	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R964	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R965	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R966▲	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
▲	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R967	CARBON RES. 1/4W J 1.2k Ω or	RCX4JATZ0122
	CARBON RES. 1/6W J 1.2k Ω	RCX6JATZ0122
R968	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R969	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R970	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R971	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R972	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R973	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R974▲	METAL OXIDE FILM RES. 2W J 12 Ω or	RN02120ZU001
▲	METAL OXIDE FILM RES. 2W J 12 Ω	RN02120DP004
R975▲	CARBON RES. 1/4W J 2.2 Ω or	RCX4JATZ02R2
▲	CARBON RES. 1/6W J 2.2 Ω	RCX6JATZ02R2
MISCELLANEOUS		
BC571	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC591	PCB JUMPER D0.6-P5.0	JW5.0T
BC951	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC952	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021

Ref. No.	Description	Part No.
BC953	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC954	PCB JUMPER D0.6-P5.0	JW5.0T
F951▲	FUSE 8.00A/125V or	PAGU20CAG802
▲	FUSE 51MS080L or	PAFC20CHV802
▲	FUSE 8A/125V 237 TYPE	PAGJ20CAG802
FH951	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH952	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078	XH01Z00DK001
JK951▲	DC JACK	1630382
PB1	9V POWER PCB HOLDER TD001UB	0EM000728
PB2	9V POW HEAT SINK(PHR) TD001UB	0EM407763
PB3	9V DC HEAT SINK PHU ASSEMBLY TD001UB	0EM407878
PB4	X4 H/V HEAT SINK(PHU) TD801UB	0EM301754
PB5	X3 FILTER HEAT SINK PGL TD500UA	0EM407094
PB6	SHIELD CASE (TOP) TD001UB	0EM301839
PB7	SHIELD CASE (BOTTOM) TD001UB	0EM301840
PB8	9V CHASSIS NO.LABEL DJ TD001UB	0EM408131
PB9	FBT HOLDER TD001UB	0EM407841
PL1	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
PL2	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
PL3	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
PL4	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
PL7	SCREW TAPPING M4X14	DBU14140
PL8	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
T571▲	FLYBACK TRANS BSC23-2610S or	LTF00CPS2056
▲	FLYBACK TRANSFORMER JF0501-3103A	LTF00CPXB041
T572▲	HORIZONTAL DRIVE TRANS LP2-005	LTH00CPA5005
T951▲	SWITCHING TRANS DC K1J2KDC	LTT00ZPKT091
VR951▲	CARBON P.O.T. 20k Ω B or	VRCB203KA011
▲	CARBON P.O.T. 20k Ω B	VRCB203HH014
WH501	LEAD WIRE 7P/	WX1TD001-002
WH553	LEAD WIRE 12P/	WX1TD800-001
WH554A	LEAD WIRE 17P/(6P+6P+5P)	WX1TD001-001

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA Consists of the following	-----
CAPACITORS		
C501	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C502	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C503	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C505	CERAMIC CAP. B K 1000pF/2KV or	CCD3DKP0B102
	CERAMIC CAP. B K 1000pF/2KV or	CA3D102MR030
	CERAMIC CAP. B K 1000pF/2KV	CCD3DKD0B102
CONNECTORS		
CN501	PIN CONNECTOR 005P-5100 or	JTEA001TG001
	CONNECTOR PIN, 1P LV or	1700576
	CONNECTOR PIN, 1P RT-01N-2.3A	1730688
TRANSISTORS		
Q501	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q502	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q503	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468

Ref. No.	Description	Part No.
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
RESISTORS		
R501 ▲	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153ZU001
▲	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153DP003
R502 ▲	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153ZU001
▲	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153DP003
R503 ▲	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153ZU001
▲	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153DP003
R504	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R505	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R506	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R507	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R508	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R509	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R513	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R514	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R515	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R516	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R517	CARBON RES. 1/4W J 15 Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15 Ω	RCX6JATZ0150
R518	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R519	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R520	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R521	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R522	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R523	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R524	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
MISCELLANEOUS		
JK501 ▲	CRT SOCKET ISMS02S	JSCC220PK003

JUNCTION A CBA

Ref. No.	Description	Part No.
	JUNCTION A CBA Consists of the following	-----
CONNECTORS		
CN901A	CONNECTOR 17P TUC-P17X-B1	JCTUS17TG001

JUNCTION B CBA

Ref. No.	Description	Part No.
	JUNCTION B CBA Consists of the following	-----
CONNECTOR		
CN503	CONNECTOR 12P TUC-P12X-B1	JCTUS12TG001

